

ELEVENTH BIENNIAL REPORT
IOWA STATE
AGRICULTURAL COLLEGE
AND FARM.
1884-1885.

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ELEVENTH BIENNIAL REPORT

OF THE

BOARD OF TRUSTEES

OF THE

Iowa State Agricultural College

AND FARM,

MADE TO

THE GOVERNOR OF IOWA,

FOR THE YEARS 1884 AND 1885.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

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GEO. E. ROBERTS, STATE PRINTER.

1885.

STATE AGRICULTURAL COLLEGE, }
AMES, IOWA, December 1, 1885. }

To His Excellency, BUREN R. SHERMAN:

In accordance with the statute defining the duties of the Secretary of the Board of Trustees of the Iowa Agricultural College, I have the honor to transmit herewith the Eleventh Biennial Report of said Board.

E. W. STANTON, *Secretary.*

REPORT OF THE PRESIDENT.

To the Honorable Board of Trustees:

GENTLEMEN—I believe the Iowa Agricultural College should do a greater work than it is now doing. It is already crowded; therefore to do a more extended work we must have more room. Our dormitory capacity is about 300, with teaching facilities for double that number. If the State will furnish the necessary dormitory accommodations, which was one of the conditions upon which the National Land Grant was accepted, we will guarantee that within a year after the completion of such extension it will be crowded to its utmost capacity with Iowa students. To make this addition we advise the building of a Ladies' Hall, to cost not less than \$66,000, thus giving us the needed room and thereby subserving two other college interests, the needs of which are understood by you without further explanation. In addition to this I consider it wise to ask for only that which is imperatively needed. A President's house and houses for the Professors who are homeless, would add much to the comfort of those who are directly concerned; but for the present these should be regarded as non-essential. It will be absolutely necessary to provide an engine for the electric light plant; for this and the needed extension of the electric light system, \$5,000 will be required. Three thousand dollars will put the laboratory in repair and provide a gas plant. To replace the swine-houses and corn cribs that were destroyed by fire, we should have \$2,000.

The annual appropriation of \$1,000 for the repair of College buildings is inadequate to keep them in good condition, hence I recommend that this appropriation be increased to \$2,500.

The accompanying reports of the Professors and officers of the Institution will give you a clear understanding of the condition of the different departments.

Respectfully submitted,

LEIGH HUNT.

REPORT OF THE DEPARTMENT OF AGRICULTURE

S. A. KNAPP. PROFESSOR.

In submitting this biennial report it may be well to call attention to the progress which the Agricultural Department has made during the past six years in which it has been under my charge.

THE FARM.

As stated in my first biennial report, the farm, in the spring of 1880, consisted of dense timber lands, bottoms, so low as to be subject to annual overflow, several acres of sand knolls, and about 172 acres of upland, with a semi-impervious clay subsoil, rendering it too wet for general cropping unless underdrained. The fields were not properly divided and most of the fences could be called such only by courtesy. To the work of constructing a farm, suited to college needs, out of this domain, I directed my energies.

The fences were repaired and many miles of new fence were constructed, providing the proper subdivisions of fields; 106 rods of canal were dug to allow a more rapid passage of the water; 200 rods of heavy levee have been constructed to protect the bottoms; 166 acres of land have been more or less perfectly underdrained; 75 additional acres of land have been placed in meadow; 200 acres of timber have been thinned and underbrushed for pasture; a systematic method of cropping and manuring has been pursued with favorable results.

STOCK.

The stock upon the farm in 1880 was mostly native. Attention was immediately directed to the introduction and improvement of standard and representative breeds of horses, cattle, sheep and swine.

The Short-Horn, Holstein and Jersey cattle, and the Clydesdale, Norman and Hambletonian horses, now upon the farm, are acknow-

ledged by all good judges to be excellent types of their respective classes.

By persistent introduction of pure Shropshire blood one of the best flocks of sheep in the State has been produced. The herds of Poland-China and Chester White swine are of the best known families. There are one hundred and four cattle, of all kinds, upon the farm; thirty-eight Short-Horns, twenty-three Freisian Holsteins, ten Jerseys, and the remainder are good common and grade cattle, used for dairy purposes.

CROPS.

During the biennial period just closed, the crops on the farm have, with few exceptions, been good.

The hay crop of the present year amounted to over 250 tons of superior hay, and the corn yielded about sixty bushels per acre. Oats were very fine, while some extra Russian varieties are so superior that after four years trial on the farm we feel warranted in recommending them to the farmers of the State. The potato crop the past season has been a great loss to this section of the country. Only a single old variety of our experimental potatoes has yielded one half the yield of last year, while some varieties, affected by the potato rot, show only returns for the seed, at the time of gathering.

The following table will give a comparison of the bushels per acre yielded by some varieties:

VARIETIES.	1884.	1885.
Beauty of Hebron	224.6	112.8
Early Telephone.....	153.4	79 2
Early Ohio.....	161.6	64.6
Early Household	127.7	15.7
Belle.....	188.2	109.1
Pearl of Savoy.....		119
Clouds of White Chief.....		139.8
State of Maine.....		168

The last three are new varieties, planted for the first time, from seed obtained from New York. These are not only heavy yielders but are sound and healthy and will keep through the winter without loss; while about one half of the potatoes raised from old seed have already been sorted out. We have on hand twenty-six of these new varieties of which we can give the same favorable report.

COURSE OF STUDY.

From time to time such modifications of the course of study have been made as experience decided to be for the best interests of the young men seeking after a knowledge of experimental and practical agriculture. It is believed that no other college can show as large a number of students taking a technical course in agriculture with the design of making it a profession.

Considerable apparatus has been collected to illustrate the class-work in agriculture, and a good start has been made in establishing a technical library. The students in the department have enthusiastically joined in aiding this work.

INSTRUCTION.

During the two years past, the number of students in the several classes in practical agriculture was two hundred and one, divided as follows:

Freshman Agriculture	102
Science of Stock-breeding	46
Science and Practice of Dairying	30
Scientific Cattle-feeding.....	14
Grasses and Forage Plants.....	9

Total..... 201

The new system of charts and illustrations which is now being added to the Agricultural Museum, will be a great assistance in teaching these studies in a more practical and intelligent manner.

STUDENT LABOR.

The impossibility of conducting student labor as a part of the "course of instruction" at the Iowa Agricultural College, must be apparent to all. Successful student labor requires the following conditions: An organization of the entire school upon the basis of labor, so as to allow time for labor in the assignment of studies, and to include such an adjustment of recitations as will permit details from different classes to work at different times, making student labor continuous for the day, and thus disposing of hired farm laborers.

Where only one fifth of the students are pursuing their studies with the intention of becoming farmers, such an organization of the

school is impossible, and, as a result, the labor performed becomes fragmentary. Students, instead of conducting the main operations of the farm, simply do such chores as they can perform at odd times, and labor from a financial stand-point rather than an educational.

It rests with the proper authorities to determine whether the broader lines of instruction are more than a compensation for the loss of vigor, of practical knowledge, of the love of work, and of the attachment to farm life, which results from the absence of the labor system.

NEW WORK.

While considerable has been accomplished, as above stated, much more work should be done. Liberal appropriations should annually be made to the farm, in order to make it an object lesson for the progressive farmers of Iowa. Just in proportion as the farm answers the best purposes of education it will become a source of expense, and require the fostering care of the Board of Trustees and the Legislature, *because it will be taking steps in advance of the demands of trade.*

STATE AID.

It is for the above reason that the State of Iowa should appropriate an annual sum for the improvement of the farm. The farm, from the commencement, has been struggling with inadequate funds. The Board of Trustees has undoubtedly applied all the surplus funds at its command, but these amounts have been insufficient to do what is imperatively needed in the interests of progressive agriculture. If the sum of \$1,500 could be annually added to the present resources of the farm, the needed improvements could go on, and experiments in dairying made, which would more than compensate the State for the outlay.

REPORT OF THE DEPARTMENT OF HORTICULTURE AND FORESTRY, 1885.

J. L. BUDD, PROFESSOR.

The present outline of the work of the department in its varied divisions for the biennial period closing November 14, 1885, must necessarily be brief.

A more complete statement in detail of the extended work in experimental horticulture will be given in a bulletin during the winter of 1885 -6.

INSTRUCTION IN HORTICULTURE.

During the past two years the division of, and time allotted to, classes in horticulture has varied from that outlined in the report of 1883, except that the number of special students in agriculture and horticulture has been constantly on the increase. I am glad to report an increasing interest in all the divisions of class and field work, and that the average standing of the members of the freshman, sophomore, and junior classes in horticulture and forestry has been twenty per cent higher than we were able to record in 1883.

It is also a pleasure to report that I am in constant receipt of favorable statements in regard to the creditable work of members of past classes as horticultural teachers, department managers, officers of pomological and forestry associations, writers for the press, or as neighborhood pioneers in the way of introducing the culture of the small fruits, the orchard fruits, the shrubs, the flowers; and not the least as leaders in prairie grove making.

OBJECT LESSONS.

In the class room, horticultural museum, on the campus, and in the small arboretums, shrubbery collections, nurseries, orchards, flower borders, and propagating rooms, we now have object lessons of special interest and value for the constant study of students and visitors.

THE ORCHARD.

The orchard of the college farm of over twelve hundred trees, containing all the varieties of the apple which have been recommended for culture in central and north Iowa for the past fifteen years, was reported in a sadly injured condition two years ago, but that such hardy varieties as Fameuse, Gros Pomier, Cole's Quince, Walbridge, Plumbs' Cider, Willow, Pewaukee, and Roman Stem, were still alive, though more or less lowered in vitality.

The still more severe winter of 1884-5 has about completed the destruction of these hardiest sorts of the old list on the College grounds leaving the Duchess, Wealthy, Tetofsky, and the crabs, alone in their glory amid the wreck of one hundred and twenty recommended varieties, and promising seedlings having a local reputation in some parts of the State.

EXPERIMENTAL ORCHARD.

This was started with a view to testing the comparative hardiness and value of the most promising new varieties of the apple of the colder parts of Maine, Vermont, Canada, Wisconsin, Minnesota, and north Iowa, and also including the new seedling varieties awarded premiums by our State Horticultural Society, and such varieties of the Russian apples as were obtainable seven and eight years ago. This collection of over one thousand trees is located on soil even less favorable than that of the wrecked orchard adjoining, and the varieties are not such as a rule as we would now select for trial after the recent test winters and our careful investigation of the Russian apples in their natal home. Yet visitors from our own and other States unite in the expressed belief that it is the most interesting collection of hardy trees of bearing size on this continent. The fifty varieties which have fruited on our grounds, and the many sorts which have fruited in other parts of the State, far exceed our expectation in size, beauty, quality, and varied season of fruit as they mainly came from the Baltic Provinces or from points as far north as Moscow.

If the more recently introduced sorts from the inland provinces of central and southern Russia and from north Silesia and Transylvania *as far exceed our expectations* we have surely been able to make some important advances in adapting fruits to our prairie soil and climate. Yet it will be a work of time to adapt varieties to our varied soils and latitudes and it is more than probable that crosses with the iron clad

Russian varieties may in time give us sorts better meeting our wants than any one of the great list now on trial.

Some detailed notes on the varieties which have already fruited in the prairie states will be given in the Bulletin on Northern Fruits.

EXPERIMENTS WITH THE PEARS.

When the report of 1883 was written, the last trace of the fifty varieties in the pear orchard on the College Farm had disappeared.

After careful study of the pears of East Europe in the summer of 1882, I could see no reason why the fine culinary varieties of the Volga, and some of the fairly good dessert pears of the black soil sections of Central Russia would not succeed as well with us as the Duchess apple. After carefully watching the behavior of these varieties on the State grounds and in other parts of the cold north, we still believe the trees as hardy and as nearly blight proof as the above apple. But the coast varieties of Russia and those of Silesia and East Poland have shown a tendency to blight and premature loss of foliage.

EXPERIMENTS WITH THE CHERRY.

In view of the recent failure of the varieties of the cherry, so far introduced, over a large portion of the State, we are pleased to report that several fine varieties of sweet, semi-sweet, and acid cherries from East Poland, North Silesia, South Russia and far Eastern Russia, seem perfect in foliage and able to endure our lowest temperatures without the loss of a terminal bud. A few specimens of fruit produced the past year indicate very early habits of bearing, and that the fruit will be quite as perfect here as in their natal clime.

Northeast Europe is famed for its many fine varieties of the cherry, and we surely have reason to believe that they will succeed better here than the less valuable sour varieties we have tried from France and England.

EXPERIMENTS WITH THE PLUM.

In nursery and orchard we are testing many of the fine native varieties of the plum now attracting local notice in the State.

We are also testing the really fine plums—equal to the best Gages—of Silesia and South Russia. They seem as hardy as our wild plums and our final measure of success with them will hinge on their relative exemption from the attacks of the curculio.

EXPERIMENTS WITH THE APRICOT.

The apricots from South Russia will prove hardy and I think fruitful over a large part of the State. So far they have been grown by the Mennonites of Nebraska mainly from pits. When select varieties are propagated by grafting and budding it will probably become a popular fruit, though not equal to the best Russian plums. We are sending out for trial some of the best varieties.

We are also sending out for trial in the south part of the State an apricot introduced by the College from a point four hundred miles northeast of Pekin in China which promises extremely well.

EXPERIMENTS WITH PEACHES.

Four years ago we introduced a number of varieties of the peach from Northwestern China. They have proven thirty per cent hardier in tree than any of the peaches from Persia, but during the past three years they have not proven hardy north of the north line of Page county, yet they promise to be exceedingly valuable on the north limits of successful peach growing.

We have also introduced some of the peaches of South Russia which seem a trifle hardier than those above noted. An apparent cross of the peach or nectarine with the plum from Northwest China, known in Eastern France as *Prunus Simonii*, we have propagated and distributed quite widely. It promises to prove of special value in the south half of the State for culinary purposes.

EXPERIMENTS WITH SMALL FRUITS.

We test all promising new varieties of the grape, raspberry, strawberry, currant, gooseberry, etc., with a view to reporting their relative value and for the observation of our special students in horticulture, but as these are rapidly taken up by our nurserymen we do not propagate or send them out to our trial stations.

The standard varieties of the grape and strawberry are grown in considerable quantity for the use of our boarding department.

EXPERIMENTS WITH ORNAMENTAL SHRUBS AND TREES.

With a view to adding to our really restricted list of beautiful shrubs and trees for the lawn which are truly hardy in all parts of the State, we have introduced a number of species and varieties of special beauty of flower or foliage from East Europe and Central

Asia. These have fully met our expectations, and we have commenced the propagation and distribution of some of the best of them.

EXPERIMENTS WITH FOREST TREES.

The isolated specimens and plantations of our native forest trees furnish many lessons for the instruction of students in forestry.

In addition we are experimenting with and sending out for trial some of the valuable willows, poplars, alders, etc., of East Europe. Some of these thick leaved, fast growing, trees promise to be specially valuable on the great prairies of the west and northwest where the less valuable cottonwood is failing, on high land, from leaf rust.

EXPERIMENTAL NURSERIES.

We think this is the only Agricultural College in the United States where specially promising varieties of the apple, pear, cherry, plum, apricot, peach, shrubs, ornamental trees, forest trees, etc., are propagated in considerable quantity to be sent out to sub-stations for trial. At this time of orchard troubles in the States west of Lake Michigan, it is specially desirable to have reports in favor of, or against all the species and varieties which we believe worthy of trial. We now have over two hundred very promising varieties of the orchard fruits on trial at sub-stations of the College, and the State Horticultural Society in all parts of our State and of the northwest. It is evident that a recommendation of a variety of the orchard fruits from two or three hundred stations located on varied soils, in all parts of the prairie States, would have infinitely more weight than continued reports of a single station for a quarter of a century.

APPROPRIATIONS.

Four years ago the State legislature provided for an annual appropriation of the sum of \$750 to aid the work in experimental horticulture on the College farm. This timely appropriation has given the department much needed appliances and fixtures and has permitted the importation of scions and rooted plants from like soils and climates of the world, which promise to give rich returns for the relatively small amount appropriated.

The College Trustees also make an annual appropriation of about \$1,200, but as \$850 of this amount must be used for paying the salary

of the foreman of the department the amount left to pay for student labor, outside labor, tools, keeping of team, heating and care of buildings, additions to museum, importation of scions and plants, etc., seems very small when compared with the appropriations of such stations in Europe or in some of our Eastern States.

Yet with the aid of receipts from nursery sales, fruits, and other products, we have been able to make creditable advances in all the divisions of department work.

REPORT OF THE SCHOOL OF VETERINARY SCIENCE.

M. STALKER.

Since the last biennial report the facilities of this school have been added to by the erection of two buildings. One of these is for the accommodation of the theoretical branch of the school, the other an infirmary or hospital especially adopted for the treatment of diseased animals. The hospital is a substantial brick building, forty-five by fifty feet, and two stories high, with hay and other storage room on the third floor. There is communication between the first and second floors by means of a nicely adjusted elevator, and also by a runway, with an easy grade by means of which animals pass from one floor to the other with the greatest facility. On the ground floor is a large, well lighted central court, where clinics are held, and surgical operations performed. Also a number of closed and open box stalls for the patients, office, harness room, room for heating apparatus, etc. On the second floor are single and box stalls, pharmacy, house surgeon's room, and a convenient dissecting room cut off from the other portions of the upper floor. All interior brick work is covered with alabastine, or plastered with hard finish. All wood work is neatly done in hard wood finish. The system of drainage is complete throughout the entire building. The J. L. Mott system of iron drain troughs with perforated iron tops and supplied with the bell water traps is employed. The drainage pipes may be flushed from either floor. From a sanitary point of view, this is one of the best, if not the best, infirmary in the United States. Since the opening of the hospital in June last, it has been well patronized by the farmers and stock-men of the community. Though clinical material is not so abundant as would be desired, yet the patronage has been greater than could be expected with a young enterprise. The promise of this branch of work in the future is very encouraging. A fine paddock of six acres lies just back of the hospital. This is set with mixed tame

grasses and clover. There is fine shade and running water in this meadow, which makes it a very valuable adjunct to the hospital.

The building devoted to the theoretical branch of the work is situated about fifteen rods from the hospital. This contains lecture rooms, microscopic laboratory, museum, offices and work room. The museum contains a large number of Azeonx anatomical models, including the complete classic model of the horse. This extensive collection of anatomical and pathological specimens is a most invaluable aid to the didactic work.

Twenty-one students were classified in this course for the year 1885, and six graduated with the degree of *Dr. of Veterinary Medicine*. The present indications are that the installment for 1886 will be much in excess of this number. Our graduates are taking a high rank in the profession, and we have the most hearty assurance that the efforts here put forth in behalf of our most important material interest are highly appreciated by the people of the State. These young men readily find remunerative employment in private practice or in the public service of the stock-growing States.

The school is indebted to the public spirit and generosity of Dr. C. E. Cruttenden, the eminent oculist of Des Moines, for a gratuitous course of lectures on the diseases of the eye. Arrangements are being made with some of the most eminent specialists of the State for similar work during next year. The future of the school is full of encouragement. Already its success is assured. With the support from the State its importance demands, there is no reason why this school may not be made the equal of any institution of its kind among English speaking people.

I append reports of some of the more important contagious diseases that have come under my observation during the past two years.

GLANDERS.

The past year's investigations have developed the fact that this loathsome disease is alarmingly prevalent in many parts of the State. Three hundred and fifty cases of glanders and farcy have been found in the following counties: Adams, Audubon, Benton, Buena Vista, Black Hawk, Clay, Clarke, Calhoun, Clayton, Cherokee, Cerro Gordo, Chickasaw, Clinton, Crawford, Dallas, Delaware, Franklin, Harrison, Hancock, Hardin, Hamilton, Humboldt, Ida, Iowa, Jefferson, Jones, Kossuth, Lee, Linn, Lyon, Marshall, Mahaska, Monroe, Monona, Page,

Pocahontas, Poweshiek, Plymouth, Sac, Sioux, Shelby, Tama, Union, Wayne, Webster, Winneshiek, Woodbury and Wright.

This does not include a large list of suspected cases that have been placed under quarantine. It will thus be seen that this insidious disease has gained a pretty firm foothold in the State, and that the annual loss from this source alone must aggregate no inconsiderable sum. There are many causes which contribute to the wide distribution of this disease. First, the period of incubation, or the time from exposure till the disease begins to develop, is quite variable. The poison frequently remains in the system for months, where there is no external evidence of the disease. Again, the early symptoms are so trivial in many horses of good constitution, especially where proper attention is given to sanitary conditions, that they are passed over with little or no thought. It is not an unusual occurrence for horses having the pure air and nutritious grass of the farm to be affected with this disease one or more years and show scarcely any evidence of debility. To one unaccustomed to dealing with the disease, these slight and seemingly unimportant evidences are anything but suggestive of the fatal ravages usually ascribed to glanders. But it must be borne in mind that the specific poison may be conveyed to healthy animals, from those suffering from this benign form. The discharge from the nasal passages, which is one of the characteristic signs, may be easily arrested for a time by the judicious use of astringents. If the animal has not become debilitated, it is an easy matter to palm off such a prepared subject as a sound horse. This fact is turned to account by unprincipled jockeys and professional traders, who procure these brutes for little or nothing, patch them up, send them off to other localities, and sell them at "a great bargain" to the uninitiated. I think I may say with perfect safety that in three fourths of all the cases of glanders met with in my experience during the past year, *a trade* was an important part of the history. These facts, together with the additional one, that horses are taken from their homes and traveled about the country more than any other class of live stock, watered at public troughs, and fed where hundred of other horses have eaten, will furnish some explanation why the disease has become so wide-spread.

Glanders is fatal, with a uniformity scarcely known to any other disease. Though an animal may live for years with the poison in his system, yet the complication of some other disease, simple within itself, may develop a type of glanders so virulent as to run on to a

fatal issue in a few days. Old age, exposure, starvation and over-work all tend to a rapid development of the disease.

There are widely different views entertained by educated men as to the cause of glanders. The weight of testimony brought out by writers on veterinary subjects, would seem to point to a spontaneous origin. That is to say, that protracted cases of debilitating disease may eventually develop into glanders, though the patient had not been exposed to glanders poison. For my own part, I have never seen a case that I thought could not be accounted for by other causes than spontaneity. In nearly every instance where these cases have come under my observation, I have been able to trace the cause to pre-existing cases, just as we trace the history of an outbreak of measles or small-pox. It is certain that contagion is the chief, if not the only, cause of glanders in this country. Man and animals of the equine species are the most susceptible subjects. Mules and donkeys are more subject to the acute type than horses; the disease not unfrequently proving fatal in three or four weeks. Equine animals contract the disease both by infection and inoculation, while man probably never contracts the disease except through the medium of inoculation.

There are two distinct and clearly recognizable types of the disease, namely: glanders and farcy. A typical case of glanders is readily diagnosed by the following symptoms: An adhesive discharge from one or both nostrils, small, pit-like ulcers on the membrane lining the nasal passages, which often run together, and give rise to raw surfaces of considerable extent. The membrane is of a dull lead color, with occasional yellow streaks. In advanced cases, the ulcers penetrate the cartilages and bones, and lead to extensive destruction of these tissues. There are hard nodular swellings between the lower jaws, not round and soft like those accompanying distemper, but deep seated, almost immovable, and having no tendency to form pus. But it is only an occasional case that shows all these symptoms in a typical way till the disease is far advanced. There are many other causes that so nearly duplicate these symptoms that it is impossible for any one but an expert to determine the difference. In fact, there are many cases that will defy the skill of the most experienced. Either the patient must be given sufficient time to definitely develop the disease, or another animal must be inoculated with some of the supposed virus, to test its activity. Diseased teeth, catarrh, the results of protracted cases of strangles, and many

other causes, often produce symptoms bearing a close similarity to those I have just mentioned, and quite as alarming in general appearance.

Farcy is a mild form of the disease, which manifests itself by hard swellings on various parts of the body, varying in size from the bulk of a hazlenut to that of a walnut. These swellings are most likely to be seen on the inner side of the thighs, on the fore limbs near the body, and on the neck or rumps, but may appear on almost any part. These swellings have a tendency to form and discharge a thick pus, after which the swelling disappears, and only a slight scar remains. This condition may continue for years, with but slight alteration of general health. In time the disease is likely to attack the membranes lining the nasal cavities, or other parts of the air passages, and the animal dies from glanders.

It must be borne in mind that glanders and farcy originate from the same poison : in fact, that they are one and the same disease, simply showing different manifestations in different individuals. The virus from a case of farcy is quite as likely to produce a case of glanders as one of its own type, and *vice versa*. Mild cases of farcy, affecting animals of good constitution, will occasionally yield to treatment. But the danger is so great in proportion to the probabilities of benefit from treatment that I cannot recommend it. So soon as it can be definitely determined that a horse is affected with glanders or farcy, he should be destroyed and the carcass buried not less than four feet in the ground. The premises where such animals have been kept should be thoroughly disinfected before any other horse stock is placed upon them. It is not necessary to burn fences, and buildings having any value, but where those consist of temporary straw shed, or similar protections, this is the best method of disposing of them. Wood-work or brick walls may be cleansed by scraping and then applying a thick coating of fresh lime whitewash. Thorough washing with a strong solution of concentrated lye, carbolic acid, or sulphate of copper, will also destroy the virus. The free application of boiling water is a cheap and convenient method of disinfection. Harness and other articles made from leather may be cleansed by immersion in oil as hot as the material will bear. All articles, as brushes, combs, blankets, etc., that have been used about a glandered patient, should be thoroughly cleansed, if they are to be afterward used on healthy animals. Wagon-tongues, neck-yokes, hitching-posts and all other

objects with which the diseased animal has come in contact, should be similarly treated.

GLANDERS AFFECTING MAN.

The property interests alone involved, are quite sufficient to demand the strictest precaution against the spread of glanders. But there are other and stronger reasons why such precaution should be taken. The disease is communicable to man, and possesses for him the same fatality as for the horse. It is nearly always communicated to man, from the horse. This usually takes place from ignorance of the true nature of the disease, and consequent careless handling. Five authenticated cases of this kind occurred in the State during the past year, and I am of the opinion there were others, but have not entirely reliable proof of the fact. During the summer of 1884, I was called to inspect some stock in Crawford county, and obtained the following history: A poor German living about seventeen miles northwest from Denison, was engaged in breaking prairie. He owned two old horses, and made a purchase of a third one for a small sum, on account of the animal being diseased. The seller represented that the animal had contracted cold. In a few weeks the other horses with which he was put to work became similarly affected. One of these ran down rapidly, and died in a short time. The owner concluded to make a post mortem examination, with the expectation that he would make some discovery that would lead to successful treatment of the remaining two. Five days later the man was attacked with glanders, and died on the fifteenth day. I examined the horse that had been recently purchased, and the one with which he had been working, and found them both suffering from well marked glanders.

I recently examined some horses on a farm near Osceola, and found that glanders had existed on the farm for some time. The farmer and his wife had been handling and treating these horses for a long while. The wife became affected with an eruptive disease and died, a few days before my visit to the farm. I had an interview with the physician who attended the lady during her illness, and he informed me she died from glanders. A case has been reported in Pocahontas county, but I cannot vouch for its authenticity. These facts are of themselves quite sufficient to warn the public against the danger from careless handling of diseased animals. The popular belief that any one "who has been among stock all his life," is a competent

judge of such matters is an erroneous one. The man who has been on the earth all his life, is not necessarily, in consequence of this fact, an authority on geology.

TEXAS FEVER.

Texas or splenic fever is a specific, febrile disease, affecting, in the Northern States, cattle only, so far as I am able to learn.

It exists in a latent form in nearly all cattle reared in the low, malarial regions in the extreme southern portion of the United States. Though affecting but slightly, if at all, the growth and general health of these animals, they readily communicate the disease in a highly fatal form to northern cattle when placed at pasture with them.

CONTAGION.

The reproductive elements of the disease seem to be contained in the bowels and kidney discharges.

Northern cattle can stand in the same stable or travel in the same car with Cherokee or Texas cattle, without appreciable danger. But when allowed to graze on pastures where these Southern cattle have been feeding or have been driven over, they readily contract the disease. Low temperature readily destroys the germs. So that after one or two hard frosts, infected pastures are rendered safe for the admission of healthy stock. After Southern cattle have remained north during the winter months, they are rendered innoxious. The virus apparently loses its vitality with a single transmission, for Northern animals that have contracted the disease in ever so virulent a form will not in turn transmit it to others. The period of incubation varies greatly in different cases. Fifty-two days is the average time in the outbreaks I have investigated. Cases are recorded in which the disease has developed in two weeks or less from the time of exposure.

SYMPTOMS.

Marked elevation of temperature, reaching in one case I examined 107.5, pulsations from 100 to 135, respiration 80 to 100, dullness and stupor; the animal isolating himself from the rest of the herd, and standing with his back arched as if suffering from cold. In the early stages the surface of the body and horns is cold. This symptom alternates with rushes of fever. Ears pendant, and the nose

resting almost on the ground. Slight cough accompanied with some frothy discharge from the nose, difficult locomotion, accompanied in some instances with partial paralysis of the posterior limbs, involuntary twitchings of the muscles over the shoulders and hind-quarters, constipation, bowel and kidney dejections tinged with blood. On the thin portions of the skin, drops of blood exude and become hard and firmly adherent. The hair looks dry and unhealthy, and there is pain or pressure over the region of the heart, and in some cases over the loins. The eyes are intolerant of light, become milky in color, and in some instances total blindness ensues. In some cases death is preceded by profound coma, or stupor, in others the animal becomes frenzied and rushes frantically about. In nearly all cases there is depraved appetite, the animal showing strong inclination to eat dirt, small stones and refuse matter. The average duration of the disease is three or four days. In a few instances animals die in an hour or two after they are known to be sick. Others live six or seven days after the attack. In the cases that recover, the aggravated symptoms begin to disappear in the course of four or five days, and the animals gradually regain health.

POST MORTEM APPEARANCES.

In a few moments after death the carcass becomes firmly rigid. If the animal be destroyed by cutting the large vessels of the neck, there is a free discharge of watery-like blood from both veins and arteries. The pale, watery condition of the blood is one of the most noticeable pathological conditions. There is usually a little swelling of the tissues in the inter maxillary space, and occasional little vesicles filled with blood, immediately beneath the skin. With the exception of these slight alterations, the carcass when the skin is removed presents the appearance of a healthy beef. The spleen is enormously enlarged; the weight varying from five to five and one-half pounds, when the normal weight would not exceed two. Its tissues are engorged with dark colored blood, and the whole organ appears to be undergoing decomposition. The liver is about double its normal weight, in one case I examined, weighing twenty six pounds. Its tissues are reddish in color, with a tinge of yellow. The bile sack is enormously distended with a black mass, of the consistency of thin mortar, and the bladder contains six or seven pounds of wine colored liquid. The fourth stomach and the entire intestinal

track are the seat of occasional congested spots, and erosions of the mucous membrane. Considerable quantities of watery infiltration are found in the brain cavity, and the brain substance is congested and much darkened in color. The surface of the heart, both external and internal, shows dark congested spots, and smaller discolored specks, are occasionally seen on the peritoneum, and especially that portion investing the uterus.

One of the most fatal outbreaks I have ever seen, occurred at Le Mars last summer. Several car-loads of cattle were shipped from Mississippi to that point, and placed on the range for a few days, after which a portion of the cattle were shipped and the remainder driven to Dakota. About eighty cows owned in the town were taken during the day to graze on the Floyd river bottom near by. The Mississippi herd was turned on this range for four days before being forwarded to Dakota. Fifty-two days later the town cows were attacked with a highly fatal form of disease. I was telegraphed to make examination. I found splenic fever in its worst form. I afterward got the foregoing history of the Southern cattle. I believe the entire herd of cows died with the exception of one or two individuals. A large number of native cattle died along the line of march from Le Mars to the Dakota line. The loss was particularly heavy where the Southern cattle were herded for some hours on the range occupied by Northern cattle.

PRECAUTION.

But little good can be accomplished by treating the sick animals, but very much can be done to prevent the spread of the disease if proper precaution be had. In every instance all native cattle should be removed from pastures where the infected herds have ranged, and should be kept off until frost. All cattle capable of communicating the disease should be quarantined at once, on the land they have been occupying, until the frosts of winter render them harmless to native stock. We have a law that is adequate for the protection of the cattle interests of the State against this disease, if the necessary information is given in time.

VERMINOUS BRONCHITIS.

I have recently received several inquiries as to the cause and nature of a disease affecting calves in different localities in the State. Some serious losses have occurred from some of these outbreaks and

grave apprehensions have been entertained by stock owners lest the disease might be the much feared lung plague. The lungs in every case are badly diseased, and as a number of animals have died in rapid succession out of a herd, the fears would not seem to be groundless that the disease is some form of epizootic. I received a bit of the lung tissue from a calf that had died from the disease. Examination of the specimen confirmed the opinion I had already formed as to the nature of the disease. It is due to the presence of parasites in the bronchi and minute air vessels. The parasites are minute round worms. Each species of our domesticated animals has one or more species of these parasites. Once introduced into the lungs they propagate with great rapidity and often destroy the life of the animal in a few days. Large numbers of the eggs, or even the adult worms may be coughed up, and the resulting young brood or unhatched eggs retain their vitality for a very long time. The eggs have been artificially hatched after being kept for several years. The young worms will cling to vegetation, live in ponds of water or moist earth while the eggs may be blown about as an impalpable dust. When any of these find their way to the lungs of a susceptible animal, a rapidly increasing colony is at once formed, and in this way the disease assumes the proportion of an epizootic. The method of reproduction and the general effects are the same in the different domestic animals. "Gaps" in chickens is due to a closely related parasite. The following description of symptoms is quoted from one of the letters I have received:

The first symptom is a slight cough, which increases in severity, seemingly causing much pain. The animal seems to try to stifle the cough, making it generally more of a hoot. Quick and difficult breathing, drawing in of the flanks, a sudden failing of flesh in severe cases, and almost entire loss of appetite. Some drink milk as long as they can stand up, standing quiet most of the time, with front legs apart, head drooping and an unnatural flow of frothy saliva. Some linger fifteen or twenty days after the attack, while others last but ten. The lean ones appear to linger the longest.

The symptoms are clearly stated, and the presence of the worms complete the evidence necessary for diagnosis.

The specimens I have examined is the *strongylus macrurius*. The adult female is nearly three inches in length, the males attaining only about half of that measurement—the diameter being that of a fine thread. While this disease is by no means so alarming as pleuro-pneumonia, it is nevertheless sufficiently destructive to call for prompt and energetic treatment. Two results are to be sought: first, the destruction of the parasites actually causing disease, and, second, the destruction of eggs and young worms that

have found a lodgment where they will likely be taken in by the cattle. Fumigation offers the greater certainty of destroying worms lodged in the lungs. Sulphurous acid fumes and chlorine gas are the most reliable agents to employ. The former can be produced by burning sulphur, and the latter by thoroughly mixing equal parts of salt and black oxide of manganese and treating the mixture with sulphuric acid, using equal weights of the mixture and acid. The animals should be confined in a small, close stable, and the gas should be produced in sufficient quantity to charge the atmosphere in the building. Care should be taken that the gas is not evolved so rapidly as to cause suffocation. The treatment should be kept up for half an hour, and should be repeated every day or two for a week or longer. The building where the animals are confined should be as free from manure and decomposing matter as possible, especially when chlorine is used, as highly irritating gases are formed by these compounds. Pens, troughs, bedding, etc., should be thoroughly disinfected. Bedding that is liable to be contaminated should be burned, and the pens whitewashed or otherwise purified. Oil of turpentine given internally, or kept where the animals will constantly inhale the fumes, is one of the most effectual remedies. The further treatment of the diseased animals will consist in overcoming the exhaustion and emaciation resulting from the disease. This last is best done by giving liberal supply of food of the best quality. Such tonics as sulphate of iron, in doses of one half drachm, or cynchonia or gentian in drachm doses, may be given twice a day to calves a few months old. The lungs of animals that have died from the disease should be burned. Keep healthy animals away from diseased ones, and exercise care in regard to allowing young calves to feed on pastures where diseased stock have been. Older animals are least affected by the parasites, but animals of any age may be destroyed by them.

REPORT OF THE DEPARTMENT OF MECHANICAL ENGINEERING.

NORMAN C. BASSETT, PROFESSOR.

During the past year a wing sixty feet by thirty has been added to the Engineering Hall. This addition supplies all needed space for class-rooms and machine-shops, but there is not as yet a sufficient equipment to enable us to obtain much benefit from the use of the new rooms.

The course of study pursued by the different classes is as follows:

Free hand drawing is given four hours per week during the first term, and mechanical drawing six hours per week during the second term, Freshman year.

Mechanical drawing is required six hours per week throughout the Sophomore year, and principles of mechanism two recitations per week during the fall term.

Principles of mechanism four recitations per week is continued for nine weeks of the Junior spring term, analytical mechanics being taken up at this point and completed at the middle of the fall term, followed by resistance of materials until the end of the year. Mechanical drawing is required throughout the Junior year, six hours per week.

Thus far the studies are preparatory to the study of mechanical engineering, which is mainly taught in the Senior year, and embraces a study of prime movers, which include the steam engine, water-wheels, wind-mills, air engines, gas engines, also the combustion of fuel, principles of thermodynamics, efficiency of furnaces, steam and other engines. During this year a complete set of working drawings of an original design for a steam engine is required of each student.

On taking charge of this department in March last, I made a radical change in the method of giving instruction in practical mechanics or shop practice. The former system, if such it can be termed, was to require each student to make a series of pieces, or exercises,

to suit a theoretical view of mechanical training. These pieces could not be used for any purpose, except exhibition, and were usually thrown into the scrap pile soon after completion.

The shop work now given to the students consists of various tools, parts of machines and pieces of apparatus, all of which are to be used, and, when completed, are usually of at least double the value of the material employed.

In accordance with this plan the students in the carpenter shop have made, during the past year, twenty-eight drawing-desks for the class-rooms, tool-cases and apparatus for the shops and class-rooms, eight work-benches complete for the machine-shop, and a variety of other work in carpentering and wood-turning for other departments of the College and for contractors and builders in this vicinity.

In the machine shop the students have made various tools and parts of machines, and eight machinists' vises, doing all of the turning, planing and fitting, under careful instruction.

It is the intention of the present management to manufacture in future all tools, machinery and apparatus needed by the department, which can be made with the facilities at our command. When the department is fully equipped, machinery will be made for the market, the shop being conducted as a manufacturing establishment.

With a careful selection of work, the principles and practice of machine construction is more efficiently taught and at a less cost than by the former system.

In making a piece or part of a machine which is to be submitted to the test of actual use, the student becomes interested and does more and better work, with less effort, than is the case if the pieces are to be thrown aside when completed.

During the course, each student has an opportunity to learn the care and management of the steam engine and boiler furnishing power for the shops. At the latter part of the Senior year a complete series of tests are made of the engine and boiler for fuel consumption and efficiency.

The course of study and practice is laid out with due regard to a proper proportion of each with relation to the other, and care is taken that the methods of applying principle to practice are thoroughly understood by the student.

REPORT OF CIVIL ENGINEERING DEPARTMENT.

C. F. MOUNT, PROFESSOR.

In the Department of Civil Engineering some very desirable changes have been made in the way of introducing text-books of the latest dates and using text-books where, heretofore, none have been available. In the second term of the Senior year I have introduced "Waddle's Practical Designing of Highway Bridges" as a text-book. Until the present year there has been nothing available in this line. Classes have been taught as per catalogue, amounting to fifteen recitations, and four afternoons' field practice and draughting per week for the first term, and twenty recitations and five afternoons' field practice and draughting per week for the second term. In a portion of the studies taught I have used text-books supplemented by a series of questions to which the student must find answers in the library or elsewhere, and upon which he must pass an examination at the close of the term. In this manner a much wider knowledge is obtained than can be had from text-book or lectures only. Each member of the senior class has designed an iron highway bridge and made all calculations and drawings necessary to the construction of the same. The junior class have surveyed and prepared a finished map of a survey of a railroad some four miles in length, or sufficient to give them an idea of what is required in actual work.

The sophomore class have been engaged upon the simpler problems of land surveying and simple and compound railway curves.

The number of students in classes have been as follows:

Trigonometry and surveying.....	46
Descriptive geometry.....	13
Junior studies.....	11
Senior studies.....	6

The number of graduates this year is six. During the past five years nearly twenty per cent of all the graduates from the four year

courses have been from the civil engineering course. The proportion has varied from one in twenty-five in 1882, to nine in thirty in 1884.

The department is now well equipped both with field instruments and class and draughting room equipments. With the addition to the engineering building, now completed, much more satisfactory progress can be made. It is next to impossible to obtain thorough work from students unless a teacher can have personal supervision of the same.

In the past this supervision could not be exercised on account of a want of room sufficient to accommodate all the students of the department. For this reason much hard work done has made little or no showing in the development of the department. All advances must be made cautiously and slowly. No change should be made in any study unless it is certain that such change will advance rather than retard a healthy growth. There are many improvements which can be made in the course, and such shall be brought about as rapidly as circumstances will permit. I would ask that the following sums be appropriated from interest fund for the use of the department:

For general expenses.....	\$150.00
For heating and care of rooms.....	50.00
Total	<u>\$200.00</u>

REPORT OF THE DEPARTMENT OF BOTANY, 1885.

 BYRON D. HALSTED, PROFESSOR.

I have the honor to present you with my first annual report as Professor of Botany. The class-work for the first term was disposed as follows:

Junior class in vegetable anatomy and physiology	22
Sophomore class in systematic botany	50
Junior students in extra botany	6
Senior class (veterinary) medical botany	7
Special students	5
Total.....	90

The junior class met for recitations or lectures four hours per week and spent one afternoon weekly in the botanical laboratory. A careful study was first made of the minute structure of the higher plants. The balance of the term was occupied with the lower forms of vegetation, especially the various parasite fungi that prey upon the cultivated plants of the farm, orchard and garden.

The Sophomores spent the term in systematic botany. They used a text-book supplemented with frequent descriptions and drawings of plants collected by themselves. Each student made an herbarium of fifty species of flowering plants, named and neatly mounted.

The Seniors in the veterinary school were given a course of lectures on medical botany, in which they were made acquainted with the various natural orders, furnishing the medicinal plants and those injurious to live stock. Several lectures on bacteria were given, accompanied by a study of the various disease germs, as seen under the high powers of the compound microscope.

In the second term the 166 students were disposed as follows:

Freshman class in elementary botany.....	109
Sophomore class in vegetable anatomy	34
Junior students in landscape gardening.....	18
Students in advanced botany.....	6

The Freshmen followed Gray's Lessons as a text-book, and were required to collect and make drawings and descriptions of living plants. These field exercises were made a leading feature of the term's work.

The Sophomores spent one afternoon per week in the botanical laboratory, and each student, with a compound microscope, made a study of the minute structure of the higher plants. The systematic work was continued through the term, and fifty species were added to the herbarium of each member of the class. The three class-room exercises consisted of recitations and lectures. The laboratory work forms the foundation for the class-room exercises. The study of the plants takes precedence of all other work, whether from text-books or lectures.

A course of lectures was given to the Junior students upon landscape gardening. Everything was centered around this subject: the building of a convenient and beautiful home in the West.

The special students have been variously employed, the work being largely determined by future intentions. One person, intending to become a nurseryman or orchardist, has spent his time in determining the differences in the microscopic structure of similar parts of closely related varieties of fruit trees. Another has studied the various weeds; another, the native trees and shrubs, while two have worked on the College herbarium, learning the methods of preserving and arranging dried plants. Two students have prosecuted the study of bacteria, for which work the laboratory needs further apparatus and books.

Aside from the work of the regular classes and special students, as briefly outlined above, considerable time has been spent upon the campus, mostly in removing trees and making changes in walks and drives. The larger part of the time not occupied with the classes has been devoted to herbarium work. This is of so variable a nature as not to be easily outlined; but, in short, it has consisted mainly in mounting about four thousand specimens of plants from various parts of the world, and arranging them in the College herbarium. In this important though tedious and painstaking work, it is only just to here state that much of the progress made is due to the voluntary service rendered by Mr. A. S. Hitchcock, a post graduate in the College. Frequent letters of inquiry have come to the department which have consumed time in answering. Requests for articles from

editors of agricultural and other papers have been complied with as far as time would permit.

The three hundred dollars appropriated for the year has been divided between the laboratory and the herbarium and office. The removal of the veterinary school to its new building left a small room on the second floor of the north hall unoccupied. This is being fitted up as an office. A doorway has been cut through, connecting this room with the herbarium, and it greatly increases the facilities for work. A case fitted up in the office will safely hold the books needed by the department in the proper prosecution of its work. Four of the compound microscopes were removed from the botanical laboratory to the veterinary buildings, and it was necessary to purchase two new ones, while two others have been borrowed for the present term. The balance of the appropriation has been spent for class-room charts, and herbarium paper, genus covers, labels, glue and other minor articles connected with the increase and improvement of the herbarium.

The needs of the department may be divided into four groups: Those of the laboratory; of the herbarium; of the library, and the repair and general improvement of the rooms. One hundred and fifty dollars will be needed to make good the original number of students' microscopes. It is hoped therefore that this amount be added to the former annual appropriation (\$300) for the keeping up and carrying forward of the botanical work of the College. All the wood-work in the rooms sadly needs painting; the walls of the laboratory and herbarium are in an unsightly condition; the black-board of the lecture-room is very poor. It is therefore urged that sufficient money from the repair fund be expended in making these improvements.

The attention of the Board is called to the fact that the members of the Freshman class should be provided with hand-lenses. Much time is lost by the students from not providing themselves with these necessary lenses. The College could purchase one hundred lenses and loan them upon deposit to the students. Two hundred dollars would meet this urgent demand.

The attention of the Board is also called to the following suggestion: There is nearly every year a student graduated from the College who would gladly remain here in the capacity of special student and assistant in botany. There are, for example, hundreds, if not thousands, of specimens to be mounted for the herbarium yearly. This work is in great degree educational. Such a student could also aid

in gathering and distributing fresh specimens to the classes, and assist in various other ways. It is probable that such a student, if simply relieved of his current College expenses would gladly remain one year as an assistant and candidate for a higher degree. The privilege of remaining might be granted to the most worthy and thus a helpful inducement made for under-graduates to do well in their studies. A similar method is carried out in many colleges, and it is hoped that the Board may carefully weigh this matter and see what are its bearings upon the growth and prosperity of the College.

As soon as the means can be provided for a botanical garden, this educational feature should be started.

DEPARTMENT OF ZOOLOGY, ENTOMOLOGY AND GEOL-
OGY.

H. OSBORN, PROFESSOR.

To the Honorable Board of Trustees:

During the past two years I have had in charge the following regular classes: Seniors in geology, Juniors in zoology, Sophomores in entomology and in zoology, and the Freshmen in zoology. I also gave in 1884 a series of lectures to the Senior civil engineers on insects attacking wooden structures, and in 1885 a series of lectures on parasites of domestic animals to the students in the Veterinary School. I have also had charge of a class in human physiology. The whole number of students enrolled in my classes in 1884 was 147, in 1885 141.

The course of study in this department begins in the second term of the Freshman year, when students take up the study of general zoology by examining and making drawings of common animals in the locality. This work is supplemented in the class room by lectures and recitations on general structure, relations, habits and distribution of animals.

The first term of the Sophomore year is devoted to the subject of general and economic entomology, embracing lectures and discussions upon insects with particular attention to injurious and beneficial species. The students make dissections and drawings of representative species in the principal groups and a given number are collected and classified.

With the second term of this year the student begins the advanced study of comparative zoology by means of dissections and microscopical study in the laboratory, along with lectures and class exercises. This term is occupied with invertebrate animals.

The first term of the Junior year is devoted to a similar study of the vertebrates.

Students of the Senior class pursue the study of geology during the first term, using LeConte's Elements of Geology as a text-book. A portion of the time is taken up with lectures; a review of the geology of Iowa; and a study of typical fossils, while the quarries in the vicinity are visited to examine the strata and secure specimens. In the geological museum students have access to a good collection of common rocks, minerals and fossils, as well as the series of Ward casts.

The zoological laboratory is supplied with twenty-four microscopes (Beck economic and histological dissecting), a sliding microtome and other apparatus for microscopical study and gross dissections. A supply of marine animals, properly preserved for laboratory work, has been secured so that a thorough study may be made of certain groups otherwise inaccessible to inland students.

The importation of microscopes authorized in 1883 was received early in the spring term of 1884 and has furnished the department with all necessary facilities in that direction during the two years past, and will answer the requirements for some time to come.

Other pieces of laboratory apparatus have been added during the present year, so that we are very fairly equipped for the work which can be done by students in our regular classes. As heretofore numerous inquiries have been received concerning injurious insects and other matters related to the department, and care has been taken to make the replies as full and useful as possible, a department bulletin of fifty-six pages and three plates was prepared and issued during the summer of 1884. It embraces notes and original studies on various injurious insects, and has been distributed to applicants and others through the State.

The zoological museum includes mounted specimens of a number of mammals; several hundred birds, representing the avian fauna of the State; a large collection of reptiles and batrachians in alcohol; a collection of Pacific Coast fishes, donated by the U. S. Fish Commission; a few native fishes, and a small but typical collection of lower invertebrates with a set of glass models representing delicate marine forms. A set of Ward casts illustrating the principal fossils is of service in this study as well as in geology.

The collection of insects embraces a large series of native species in many instances all stages in the life history of an insect being rep-

resented, and special care has been taken to secure the species of economic interest. There are also collections of nests and eggs of birds, and of skulls, skeletons and brains of vertebrates. These are being added to as rapidly as possible. The museum rooms, as well as the laboratory, are open to students for the direct study of specimens.

The collections during the past two years have been enlarged by the addition of a number of valuable skeletons, glass models and marine invertebrates. Collections of insects from Colorado, Texas, Louisiana and various southern States. A collection of Tennessee mollusks and numerous native specimens.

During the last summer vacation I made a trip to Okoboji and Spirit Lakes for the purpose of dredging the lakes and collecting in that vicinity. A considerable amount of valuable material was secured, which when worked up will add to our knowledge of the zoology of that region.

The classification and arrangement of the specimens in the museum and insect cabinets has been advanced as time and means permitted. The new cases have been filled, and the specimens hitherto packed away have been placed on exhibition so far as space would admit. In September last I received a commission under Prof. C. V. Riley as special agent of the division of entomology U. S. Department of Agriculture, the duties of which are not to interfere with my work here. This enables me to carry on studies and experiments upon the injurious insects of the State, which will I trust prove an advantage to the people of the State and of value to this department of the College. It enables me also to spend a portion of my vacations with the best entomologists of the country, and will very greatly facilitate opportunities for increasing our collections and the interest in the department.

In previous reports I have called attention to the necessity of more room for the work of the department, and in accordance with the authority given me at your last annual meeting, I have given considerable attention to the plans of various buildings for like purpose, and to planning a building adapted to our wants. These plans have been put into shape by the kindness of Mr. C. H. Lee, a former graduate of our College, and I would respectfully call your attention to them at this meeting.

The rooms assigned in North Hall, and which have been occupied since the summer vacation, have relieved the present pressure to some

extent, but these were assigned only for two years, and the museum does not allow of the proper arrangement of the material already collected, and will prove entirely inadequate for any future addition.

The future growth and success of the department must depend largely upon the provision of ample and suitable rooms at the earliest possible time, and I would urge that you give the matter early and careful attention.

DEPARTMENT OF PHYSICS.

J. C. HAINER, PROFESSOR.

I have the honor herewith to transmit to you the report of the Department of Physics, for the year 1885.

The study of physics begins with the Sophomore year, and extends through the Junior year. The following outlines the course of study:

In the first term Sophomore year the main topics are, composition and resolution of forces; the elementary machines; laws of motion; the composition and resolution of motions; friction; work; kinetic and potential energy; centre of gravity; specific gravity; capillarity; elasticity; hydrostatics and pneumatics.

In the second term: Thermometry; principles of the measurement of heat; mutual relations of heat and work; radiant heat; transference of heat; sources of heat; hygrometry; magnetism; properties of the magnetic field; potential; principles of magnetic measurement; sources of electricity; galvanic batteries; resistance and Ohm's law.

In the first term Junior year, the main topics are: Chemical and heating effects of current; relation between electricity and magnetism; induced currents; principles and instruments of electrical measurements; the nature and propagation of sound; the laws of the vibration of sounding bodies; reflection and refraction of light; properties of mirrors and lenses; optical instruments; spectrum analysis; polarization and the physical nature of light.

In the second term the study is pursued by practical work in the physical laboratory. One afternoon is given to this work per week.

The above embraces the course of study in general physics. It is taught by lectures, recitations, and text-books. Experimental demonstrations are given of the important laws and principles; and, so far as the knowledge of the student will permit, the practical applications of physical laws in the industries are indicated.

To students desiring it, and who are properly qualified, an opportunity is given to take extra work in physics. The following is an outline of the work offered: In the second term Junior year, a course of lectures in analytical mechanics, especially adapted to further the study of advanced physics; methods of physical investigations; the reduction of observations, including the method of "least squares." Laboratory work is required two afternoons per week.

During the Senior year the study is continued under the following heads: theory of heat, Maxwell; theory of electricity, Cumming; undulatory theory of optics, Airy; dynamo-electric machinery, Thompson. The student continues laboratory work two afternoons per week throughout the year, using as a guide, "Physical Measurements," by Kohlrausch.

The physical cabinet is well supplied with apparatus, both for experimental demonstration and for exact measurements in laboratory work. The electric light plant on the College grounds enables the student to make measurements and tests under the actual conditions that hold in practice.

REPORT OF THE DEPARTMENT OF CHEMISTRY.

A. A. BENNETT, PROFESSOR.

Instruction in chemistry begins in the first term of the Sophomore year with a study of metalloids, supplemented with sufficient theoretical chemistry for their thorough comprehension. This work is followed by a study of the bases, pursued until the end of the term. The instruction is given by text-book, lectures and laboratory practice.

Qualitative analysis is continued in the second term of the Sophomore year with theoretical chemistry and an elementary study of oxidation and reduction. The text-books are Douglas and Prescott's Qualitative Analysis and Remsen's Theoretical Chemistry.

Students in the Veterinary School complete an elementary course in quantitative analysis during the first part of the term, followed by urine analysis and toxicology. Chemical and microscopical examinations of urine are made in both its normal and abnormal conditions. The common organic and inorganic poisons are studied in connection with the examination of foods and tissues in assumed cases of poisoning. The students are drilled throughout the year in equations and chemical problems. The works of Vaughn, Rose, Taylor, and Wormley are used.

Quantitative analysis in the first term of the Junior year of the Agricultural School consists of density, gravimetric and volumetric determinations and separations using first pure chemicals and afterward impure substances. The text-book is Classen's Quantitative Analysis, with Fresenius and Sutton for reference.

Organic chemistry in the second term of the Junior year in the Agricultural School is experimental and theoretical, using Remsen's Organic Chemistry as text-book.

Agricultural Chemistry in the first term Senior year in the Agricultural School consists of an elementary study of soils, manures, plants, milk and kindred subjects. The text-book is by Frankland.

The organic chemistry in the second term Senior year is a qualitative and quantitative analysis of organic compounds, consisting of a study of known materials and followed by analysis of unknown organic mixtures. The text-book is Prescott's Proximate Organic Analysis. This is a "four hour" elective in the general course open to students who have taken all of their above prescribed and elective work in chemistry, excepting agricultural chemistry, and in the order in which it is here laid down.

The work offered in chemistry is sufficiently extended to furnish the student a good foundation for further study and research either as an original investigator or a practical chemist. The work is recommended as much for its educational value as for its practical utility. The expenses of the student are as light as possible, the charges being barely sufficient to cover the cost of the materials used. Students have access to standard works on chemistry and are aided in using them for consultation in the prosecution of their work.

REPORT OF THE DEPARTMENT OF DOMESTIC ECONOMY.

MRS. EMMA P. EWING.

The School of Domestic Economy which the Board of Trustees, by a unanimous vote June 18, 1884, ordered organized at the commencement of the present school year, opened in south hall last March, with a special course of study, designed to extend through two years. Nine young women were classified in this course, and five more entered the school as special students of domestic economy ; but before the term closed a four years' ladies' course was adopted, and it was deemed advisable for the best interests of the College, that the two years' domestic economy course should be abolished, and a post graduate course arranged to take its place.

The post graduate course was adopted by the faculty Sept. 14th, and immediately thereafter three young women—graduates of three different institutions, viz.: Iowa Agricultural College, Iowa State University, and Drake University—were admitted to the school as post graduate students. Several other young women, not graduates of colleges or universities were also admitted in August and September, as special students.

During the spring term the domestic economy course class—nine in number—and the special students—five in number—received instructions daily in cookery and general household management. And a class of freshmen girls taking the regular college course—twenty-three in number—received three hours instruction a week in the same branches.

During the fall term three post-graduates and eight special students received daily instruction in cookery and general household management, and the junior class of young women taking the regular college course—two in number—received three hours instruction in the same branches. Seven of this number also received instruction in dress making, according to the most approved system—and one special student received instruction in dress making alone.

During the school year the entire number who received instruction in the school of domestic economy may be classified as follows :

FIRST TERM.

*Domestic economy course class.....	9
Freshman class.....	23
Special students.....	5
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Total ..	37

SECOND TERM.

Post graduates... ..	3
Special students.....	9
Junior class.....	2
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Total.....	14

It requires such a vast expenditure of mental and physical labor to conduct a school of domestic economy effectively that the time devoted to classes during the present school year by myself and assistants, whose services I procured at my own expense, has averaged eight hours daily. And this work in the department is so largely pioneer work—there being no manuals or text-books on domestic economy of any practical value—that the principal portion of this time was occupied with lectures and laboratory practice.

METHODS OF INSTRUCTION.

Cookery is one of the most important branches of domestic economy ; and as my method of teaching it are almost diametrically opposed to those of a majority of cooking school teachers, both in this country and Europe, it is perhaps proper that I should briefly allude to them in this report.

It is utterly impossible for the average student to take up several different subjects in a single lesson and obtain much practical information in regard to them. Consequently instead of arranging an elaborate bill of fare consisting of from five to twelve dishes, and endeavoring to give the student instruction in preparing all of them in a single lesson—as Professor Blot did when he established the first cooking school in this country about thirty years ago, and as those who adopted his system have been doing ever since—I select a single article and make the preparation of that article the subject of an

*Abolished at close of first term.

entire lesson. To illustrate : A popular cooking school text-book gives for a single lesson the following bill of fare : "Tripe soup, fried halibut neck, kolcannon, bubble and squeak, apple fritters." Now instead of attempting to instruct a class in the preparation of such a variety of articles in the course of a lesson I take up one subject—bread making, or soup making, or roasting meats, for instance—and after practically illustrating it, I explain to the pupils the principles that govern the subject under consideration, and then drill them on that special branch of cookery until they are thoroughly conversant with it, and are capable of making bread, or soup, whichever it may be, of excellent quality, or of roasting meats and doing whatever else they have been taught, in a superior manner. Cookery and general housework when systematized in this manner become easy, pleasant and attractive ; and most of the pupils under my instruction the past year, have been so interested in their domestic economy studies that their progress has been very marked, and highly satisfactory.

NEEDED ACCOMMODATIONS.

Since the opening of the school in March numerous letters of inquiry from all parts of the country, in regard to our course of study, methods of teaching, etc, have been answered. Applications have been received from Boston, Baltimore, St. Paul, and other places, for teachers of cookery and domestic economy at salaries ranging from \$50 to \$75 a month, and one of the post graduate students has already been engaged to take charge of the domestic economy department of the Toledo, Ohio, Manual Training School next fall, at a salary of nearly \$1,000 a year.

These avenues of profitable employment, which a demand for systematic methods of housekeeping is opening to women of intelligence and energy are rapidly on the increase; and the influx of students to this school which is correspondingly on the increase, will be checked only when the supply of well-trained teachers and housekeepers equals the demand. But as South Hall is already crowded to its utmost capacity with students, and applications are on file from others who wish to enter next year, I earnestly ask you to take into consideration the propriety of repairing and enlarging the building so as to render it capable of comfortably accommodating them; or of providing for their accommodation in such manner as may be deemed advisable.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

JAMES RUSH LINCOLN, PROFESSOR.

It is not intended in this department to complete the education of the thorough soldier, but to fit the young men for filling intelligently positions in the State troops as line officers and company instructors. The constant demand for men thus trained emphasizes the value of a thoroughly organized and well sustained military course. The chief advantages derived are the acquirement of a dignified carriage of the person, a gentlemanly deportment and a self-respectful discipline, with habits of neatness, order and punctuality. Opportunities are afforded each cadet for extending the studies in military science as desired, the College being provided with the necessary arms, accoutrements and outfits for drill and instruction in the infantry, artillery, and signal tactics, for which special classes will be formed. Lectures on military subjects are delivered throughout the course, and regular battalion drill and dress parade takes place each Wednesday afternoon. All male students of the College, except such as may be excused by proper authority, are required to become members of the College battalion, and wear the prescribed uniform during military exercises.

Successful work has been done in the department during the past two years. Not having a sufficient number of rifles with which to arm the battalion has resulted, however, in destroying the interest of the unarmed cadets in the drills, to a very great extent. The College should be provided with at least 104 cadet rifles, and two light pieces of artillery, six pounders or gatlings. Believing that military drill will add to the general good health of the students; and that military discipline and training, through calls for quick physical action, obedience to law and authority and the proper exercise of authority, are desirable factors in mental culture I consider that more time should be devoted to military training.

DEPARTMENT OF MATHEMATICS, POLITICAL ECONOMY AND COMMERCIAL LAW.

E. W. STANTON, PROFESSOR.

The following classes have been taught in the department during each of the past two years :

FIRST TERM.

Algebra, three divisions, five recitations each per week.
Calculus, five recitations per week.

SECOND TERM.

Geometry, two divisions, five recitations each per week.
Algebra, two divisions, five recitations each per week.
Analytical Geometry, five recitations per week.
Advanced Calculus, two recitations per week.
Political Economy, three recitations per week.
Commercial Law, two recitations per week.

MATHEMATICS.

Algebra is taught in the freshman year. The class is divided into three divisions ; the first two complete the subject by the close of the first term, while the third, composed of students not thoroughly prepared to enter the advanced divisions, is continued during the second term. This last division has been under the charge of Miss McDonald, the efficient assistant in mathematics. During the second term of the present year she has divided it into two sub-divisions, the students in the first completing the study, while those in the second have taken work preparatory to entering the regular class next spring. This preparatory class in algebra should be discontinued at as early a date as practicable, and only such students admitted as are able to take this study in regular course. In the instruction in algebra particular attention is given to the explanation of the underlying principles, and the drill in the solution of problems and equations is conducted with reference to fixing these principles in the mind of the student.

The students in the two advanced divisions in algebra who complete that branch during the first term take up the study of geometry for the remainder of the year. Early in his work the student is taught the full meaning of a geometrical demonstration. He is prohibited from learning the proof by rote and is required to thoroughly understand each proposition. Original theorems are assigned which he is expected to demonstrate. Failing to fully grasp the subject he is advised to drop the study, for geometry studied but not mastered is an injury rather than a benefit to the student.

In 1884, the class being small, the two divisions were combined, under my instruction. During the present year Prof. Hainer has given me able assistance, conducting one of the divisions with marked success.

Analytical geometry is pursued by the students of the Sophomore class during the second term. It is a required study in the engineering courses and, under the new arrangement of elective studies, is open to any student in the general course who may desire to take it. Preparatory to this study instruction in trigonometry is given by Professor Mount during a portion of the first term of the Sophomore year. Previous to the present year, Church's Analytical Geometry was used as a text-book. This term the New Analytical Geometry of Professor Newcomb was introduced. The practical problems with which each portion of the work is illustrated and enforced have been of great advantage to the students. In solving them, the students have gained a clear insight into analytic processes. Thus equipped the class has been able to do most thorough and successful work in the study of the straight line, circle, parabola, ellipse, hyperbola and other plane geometric figures, besides devoting considerable time to the study of magnitudes in space.

Instruction in calculus is given during the Junior year. In the first term there are five, and in the second term two recitations each week. In the first term Buckingham's Calculus is used as a text-book and the students are thoroughly drilled in the fundamental principles of this method of mathematical investigation. Many problems are given the class with the object in view of enforcing these principles and enabling the student to handle with somewhat of ready accuracy the complicated machinery of differentiation and integration. The second term is devoted to advanced work and is taken only by those who desire to pursue the study further than required in the regular mathematical course. In this as in the other mathematical

studies the students have done excellent work. Their earnestness and enthusiasm have done much to advance the standing of the department and have contributed in no small degree to the success of the past two years.

POLITICAL ECONOMY AND COMMERCIAL LAW.

These studies come in the second term of the Junior year and together constitute five recitations per week

Political economy is taught by text-book, lectures and discussions. Wayland-Chapin is the text-book used. At least two essays are required of each member of the class. Labor, capital, production, exchange, value, money, credit, landed property, taxation and foreign trade are some of the subjects investigated. The student is made thoroughly acquainted with the scientific principles which underlie all industry and becomes familiar with the views of the leading writers upon economic questions. While no particular doctrines are advocated the student learns, in the light of the principles studied, to discriminate between the different arguments advanced, and thus arrives at conclusions of his own. It is designed, in the future, to decrease the text-book requirements in this study and increase the amount of library work required of the students.

In commercial law, contracts, agency, partnership, sale of goods, and real estate are studied. Parson's Laws of Business and Clark's Commercial Law are used as text-books. Much of the work is presented by means of lectures. Particular attention is given to commercial paper.

The wholesome interest shown by students in the study of political economy and commercial law greatly relieves the hard work necessary to the successful conduct of these studies. The classes of the last two years are, in this respect, worthy of commendation.

The following is the number of students who have completed the studies in this department during the past two years. Those failing to pass are not included:

	1884.	1885.
Algebra.....	58	85
Geometry.....	37	59
Analytical Geometry....	16	14
Calculus.....	18	15
Advanced Calculus.....	7	3
Political Economy.....	34	18
Commercial Law.....	22	15
Total.....	192	209

DEPARTMENT OF PSYCHOLOGY, SOCIAL SCIENCE AND APPLIED RHETORIC.

A. S. WELCH, PROFESSOR.

PSYCHOLOGY.

The regular exercises in psychology throughout the first term were as follows: The Senior class, which consisted of twenty-eight members, met in the forenoon and listened for an hour to a lecture on some branch of the subject, taking copious notes thereon. Then, in the afternoon, sections of the class met, by turns, for the purpose of reviewing their notes, listening to familiar explanations of difficult parts, or reading essays on kindred topics assigned by the teacher. The preparation of essays, of which each Senior wrote six during the term, made daily reading in the library necessary, and tended to establish the habit of independent investigation.

The last six weeks of the term were occupied with a rapid survey of Hamilton's Analysis of the Intellectual Faculties, interspersed with essays, discussions, etc. It is gratifying to report that, as a class, the Seniors manifested a high degree of interest and earnestness.

The sole object sought in the study of psychology was to give the student a knowledge of the faculties, operations and laws of his own mind, and to establish thereby the habit of close and careful thinking. The science of mind, if properly pursued, presents to the student clear views of human nature, strengthens the love of truth and reveals the sure methods of reasoning in search of it.

DISSERTATIONS.

Two dissertations on practical topics connected with their studies, are written by each Senior during the Spring term. Some five of these dissertations were read to me on Friday afternoon of each week, and afterward reported for record.

SOCIOLOGY.

During the second term of the past year, the Senior class, except the Engineers, were engaged in the study of sociology, occupying five hours a week in recitations on that subject.

Sociology, as pursued by the Senior class, includes the systematic study of the many forces whose development constitutes the progress of the human race. It embraces, for example, a careful survey of the growth of governments from early despotisms to the later republics. It discloses the progress of the sciences, the arts, and the industries, from their crude beginning to their present vast magnitudes. It traces, in short, all those movements by which civilization advances and the world gets on.

APPLIED RHETORIC.

The Freshman class, during the fall term, pursued the study of rhetoric according to a plan by which they applied its principles to immediate practice. The text-book was discarded and the subjects were presented in familiar lectures. As soon as any single rhetorical element was fully understood, it was embodied by the class in an original composition on a suitable topic. In this way, before the term closed, the principles of the entire science were reduced to practice in clear and forcible writing.

DEPARTMENT OF ENGLISH LITERATURE, LATIN,
ETHICS AND HISTORY.

W. H. WYNN, PROFESSOR.

I have discharged without interruption the varied duties devolving on me as Professor of English Literature, Latin, History, Ethics and Literary Criticism. During the first term of the year Freshman rhetoric was assigned to me, a class of about eighty students reciting three times a week. It was deemed best to lay the foundation in this term for what is called applied rhetoric to be pursued in the following term under the instruction of Dr. Welch. Accordingly the first half of the term was occupied in a thorough drill in the English sentence, using for this purpose Whitney's Syntax; in the second half the class were engaged in a series of practical exercises on the elementary rules of rhetoric.

During this term I delivered to the Juniors seventy-five lectures on English literature, running rapidly over the early stages of its history, and fixing finally upon the Elizabethan drama as a point on which the class might detain for the direct study of the masterpieces, especially some three or four of the chief plays of Shakespeare. But as the nature and scope of this species of literature is best understood by acquiring some familiarity with the Greek drama, I devoted eight lectures to the rise and development of the Greek drama, allotting one or two of the plays of Sophocles to be studied and analyzed by them in English translations. Sketching briefly the interval between the Elizabethan age and our own time, the class were detained for direct study and analysis on Tennyson's "Princess," using for this purpose the charming little annotated volume of Rolfe.

During the same term I conducted two recitations a week in history, confining the work here to a rapid survey of the history of Greece, using as a guide for underlying principles and a working hypothesis for the successive stages of Greek life, Hegel's Philos-

ophy of History, but requiring the class to read over the corresponding periods in Grote's History of Greece.

In addition to this, I conducted five recitations a week in Latin with the Freshman—thus making in all fifteen recitations a week.

During the second term I conducted with the Seniors three recitations in ethics, and two in æsthetics a week, this last branch opening out a more comprehensive field for what was allotted to me as literary criticism. In ethics I used Janet's Theory of Morals, and in æsthetics, Prof. Kedney's rendering of Hegel's noted work on that subject. During this term I conducted five recitations a week in Latin, and about two hours a week were devoted to dissertations and other literary work.

At the beginning of the year I was made responsible for every third Sabbath's religious exercises in the chapel, all of which appointments I met.

GERMAN AND FRENCH.

Miss Stockman.

GERMAN.—German is taught in the first term of the Freshman year, the grammar being illustrated and practically applied through the natural method and by original work. In the second term, syntax, etymology and idioms are applied in letter-writing and conversation. In the first term of the Sophomore year German literature is taught by reading, conversation and one lecture per week. At the end of this term the student has gained facility in conversation in German. In the second term of the Sophomore year of the Ladies Course, students translate from the works of Longfellow, Tennyson, and Aldrich, and have two lectures per week on comparative literature. In the first term of the Junior year of the Ladies Course the history of German literature and art is taught by reading, conversation and two illustrated lectures per week.

FRENCH.—French, open to students in the various courses, is taught by the same methods as outlined above for the German language.

ELOCUTION.

Miss Saunderson.

Instruction in elocution is given throughout the entire course. The system of voice culture is based upon the discoveries of modern

scientists and removes all impurities from the voice, giving fullness, flexibility and power. A thorough physical training is involved in this course, resulting in improved health as well as grace and ease of manner. The laws underlying the art of expression are taught, so that the pupil becomes the master of principles and rules, not a mere imitator of a certain model. The philosophy of expression taught is that discovered by Delsarte in gesture and that adaptation of the system to voice and rendering made by Prof. Monroe.

INSTRUMENTAL AND VOCAL MUSIC AND PAINTING.

MISS ATHEARN, TEACHER OF INSTRUMENTAL MUSIC.

MRS. VAN ETEN, TEACHER OF VOCAL MUSIC.

MISS BUDD, TEACHER OF DRAWING AND PAINTING.

Music and painting are not given by law in the College curriculum. Opportunities are offered, however, to such as desire it to take lessons upon the organ, piano, in vocal training and in painting.

THE PIANO FORTE.—In the study of this instrument, particular attention is given to technique as a necessary foundation for a perfect mastering of the piano forte. The works used are technical studies of a high character and the compositions of the best writers.

THE PIPE ORGAN.—The methods of George Whiting of the New England Conservatory of Music, Boston, are followed as far as possible, and the works of Kirk, Mendelssohn, Guilmant, Whiting and others are used. No pupils are advised to take up the study of the pipe organ until somewhat advanced in piano forte playing. Charges per term of twenty lessons upon the piano or organ, ten dollars. For use of piano, two hours daily practice fifty cents per month. For use of piano one hour daily practice, twenty-five cents per month. No pupil taken for less than one half term, and no deduction will be made for temporary absence from lessons.

VOCAL MUSIC.—Instruction in vocal music is given in private lessons and to a choral class. Voices are trained with the utmost care, and fitted for the concert room if desired. The choral exercises are most effective in rendering works which train and strengthen the voice, and elevate the musical taste. Charges per term of twenty half hour lessons, ten dollars. Choral class two lessons per week for four months, four dollars.

PAINTING.—A convenient studio, containing some choice studies from the ancient and the modern masters, has been fitted up for the pupils in painting. Charges per term of twenty lessons, ten dollars. Materials can be obtained at the College.

REPORT OF LIBRARIAN.

MARY W. MC DONALD.

The books comprising the library have been selected with reference to the wants of the departments, the aim being to build up a working library, which shall furnish the students and officers of the College, who are pursuing investigations beyond the ordinary text-books, with the best authorities and works of reference.

During the year 1885 there have been added to the library:

By purchase.....	382 volumes.
By donation.....	64 volumes.
Periodicals bound.....	86 volumes.
Number of valuable pamphlets donated.....	92 volumes.

Total number added this year.....	624 volumes.
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Total number added in 1884.....	217 volumes.
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Number added during biennial period.....	841 volumes.
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Number of volumes now in the library exclusive of duplicates.....	5986
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The binding of periodicals and pamphlets was done this year by L. S. Merchant, Cedar Rapids, Iowa, at the following prices :

For octavos	\$.85
For quartos	1.25
For folios	1.50

All binding was done in half sheep, marbled paper sides and sprinkled edges, except two volumes of Theses which were in half morocco and cloth. The work done by Mr. Merchant was in every respect satisfactory.

Most of the books were purchased this year through Redhead, Wells-lager & Co., Des Moines, their bid on books being somewhat lower than that of four eastern firms to whom lists were sent.

REPORT OF THE SANITARY DEPARTMENT.

DR. D. S. FAIRCHILD.

As health officer of the Agricultural College, I beg leave to submit the following report of sickness for the college years 1884 and 1885:

1884—Whole number of cases, 9; occurring as follows: March, 2; April, 3; May, 1; August, 2; October, 1.

Nature of cases: fever from exposure to cold, 2; "billious fever," 2; scarlet fever, 2; intermittent, 2; fracture of forearm, 1; total, 9.

The whole number of days of sickness requiring medical attendance, excluding the two cases of scarlet fever and the one case of fracture, 16.

1885—Whole number of cases, 8.

Nature of cases: peritonitis from exposure, 1; pneumonia, 3; fracture of tibia, 1; hysteria, 1; typhoid fever, 2. Distributed through the year as follows: March, 2; May, 1; June, 2; September, 1; October, 1; November, 1.

In view of the fact that most of the Board are unacquainted with the sanitary work which we have undertaken to do here, and also with our present methods of drainage and sewerage, I have thought proper to pass briefly in review the history of our efforts to preserve so far as possible the health of students who have been under our care.

It appears that in the original plan of construction of the main building some provision was made for sewerage and drainage, but not on any scientific principle. The sewerage was the water carriage system. The sewer, which was a large one, was constructed of brick and mortar, and opened to the south, at the foot of a hill a few rods directly south of the College building, where it emptied into a small brook running through the College farm. It connected with a closet situated at the west end of the south wing, thoroughly trapped, but not ventilated at any point. In 1871 both wings were extended, and two new closets constructed, one on the second floor of the south

wing, and one on the third floor of the north wing. These closets connected with the above described sewer, but in order to reach it the pipe of the one in the north wing ran into the cellar across the court and through the cellar of the south wing, where it received the pipe from the closet in this wing. The sewer pipes in every case terminated in a blind extremity immediately above the closet. There was no possible ventilation at any point.

The amount of sickness in the College varied from year to year, but notably increased as the College grew older. In what relation, I am unable to say, as no records were kept. Up to the close of 1875, the professor of chemistry was a physician, and he, with physicians from town, attended the sick. In 1876, the practice, which had gradually fallen into my hands, fell to me almost exclusively. Nothing in the sickness of this year was particularly noticeable, but it is presumed to be about the same as in former years. During this year (1876), steam heating apparatus was put in, and the building thoroughly renovated. Up to the year 1877 malarial fever of different types, with sore throat and erysipelas was very prevalent. During the year 1877, 25 cases of typhoid fever, and 19 cases of severe malarial fever occurred. Of the 25 cases of typhoid fever, four died, one at the College and three at their homes. Of the 44 cases, ten occurred in June, twelve in July, nine in August, four in September, seven in October, and two in November. These cases represented, as near as could be determined, 858 days of sickness. When the second case of typhoid fever occurred (in June), an investigation of the sanitary condition of the College was suggested. I was, at that time, simply practicing in town. On a Saturday—the exact date cannot now be ascertained—Gen. Geddes, Profs. Stanton, Beal, Thompson, Budd and myself, with Mr. Harlow (the Proctor), organized in the College parlor, and set out for the cellar. We found the cellar in a damp and close condition, the sewer and water pipes were leaking badly, and the ground was thoroughly saturated. In the neighborhood of the sewer pipes the emanations were almost intolerable. The cold air ducts which formerly supplied the furnaces had been closed, hence the only ventilation from the cellar was into the rooms above, which was accomplished in this manner: The original idea of ventilating the rooms was by means of an air duct passing from the top of the building, where it was tightly closed down into the cellar. Each room, by means of a register, communicated with one of these ducts.

It was now ascertained that there was a strong current of air into each room, loaded with all the impurities from the cellar.

The condition of the sewer was even worse. Some of the traps were defective, and offered no protection at all, and when the wind was in the south, as it so often is during the summer, the gas was actually forced through the water in the traps. To be conscious of the presence of sewer gas it was only necessary to enter any of the halls. Further, it was ascertained that the overflow pipes from the tanks situated under the roof emptied into the sewer without being protected by traps. The taste and smell of the water was at times so bad as to be almost useless for drinking purposes, notwithstanding it was constantly replenished from the spring. The lower or south end of the sewer, which was 3x4 feet in size, was crumbling, and contained great quantities of fecal matter.

Every possible means was employed to remedy the evil; traps were repaired, ventilation improved, sewer and water pipes mended, and all communication with the cellar was at once cut off, disinfectants were freely employed. Nothing, however, short of a new sewer, could effectually relieve the difficulty. But this change could not be made without State appropriation, nor could the work be done until the winter vacation. The number of cases gradually diminished when colder weather came on, aided, perhaps, by our improvements.

During the winter vacation the necessary money having been obtained, the old sewer was disconnected from the College building, and a new sewer constructed. An examination of the old sewer revealed a most frightful state of affairs. It was nearly full of almost solid sewage, the accumulation of seven years of two hundred persons.

The new sewer constructed under Prof. Beal's directions was made of ten-inch vitrified pipe, thoroughly cemented at all its joints, and emptying into Squaw creek, one-half mile east of the College. At two points between its mouth and the College ventilators were placed protected by charcoal interceptors. The main sewer pipe was carried around the west end of the College, and into one of the old furnace chimneys, at the west end of the north wing to a point several feet above the roof. The pipes from the closets opened laterally into this soil pipe. The two closets in the south wing emptied into the main sewer by means of branches, the soil pipes were likewise extended several feet above the top of the building. All the closet connections were ventilated immediately outside by pipes extending up alongside the walls of the building, and terminating several feet above the roof.

The pipes from all the closets, from the sinks in the halls, and from all other points where water is used, empty into the soil pipes in their course downwards, and are double trapped. The rain pipes which collect the water from the roof empty into the sewer and are also trapped.

At the fall meeting of the Board in 1877, Dr. Fairchild was elected health officer, without salary, of course, in connection with Profs. Beal and Budl.

The College year opened in March (1878), with the usual number of students.

We watched with great interest the development of cases of sickness under the improved system of drainage, sewerage and ventilation. This year (1878), our tables showed twelve cases, of which nine were sore throat.

In 1879 we had twenty-three cases. Of these were found five cases of intermittent fever, two cases of follicular tonsillitis, one of diphtheria.

A careful analysis of the cases for the years 1878 and 1879 revealed the astonishing fact that 49 per cent of all the cases occurred in a few rooms running up through all the stories over the oldest water closet. These rooms had always been regarded as the most desirable in the College. Here was also found all the cases which are usually regarded as dependent upon local causes. The closet was suspected. As no plans of the old sewer pipes were recorded workmen were employed and after considerable excavating it was discovered that an unsuspected pipe still existed, connecting the College with the old sewer, and admitted the sewer gas. This was remedied, and we again waited for developments.

1880 shows 11 cases all arising from cold, and 13 cases of measles.

1881—4 cases, all accidental.

1882—10 accidental, 5 measles, 3 accidents.

1883—9 ordinary cases, 2 accidents, 6 scarlet fever.

An analysis of the cases for the last five years shows that all parts of the building are equally healthy, and that intermittent fever and follicular tonsillitis have almost entirely disappeared.

In 1882 three cases of typhoid fever occurred in the old cottage. It was believed that these were caused from drinking water from a suspicious well. The water was analyzed and found to contain a large amount of organic matter. This well was condemned and abandoned.

In 1879 a remarkable outbreak of typhoid fever appeared in a house on the north side of the farm. In 1878, in December, a case of typhoid fever occurred in the family of one of the farm hands. In spite of abundant warning, the family threw the excrement out on the snow. The well supplying the family was situated at the head of a slough, into which the grounds surrounding the house drained. When the snow melted in the spring, the excreta containing the germs was carried into the well. This year, as the College was unusually full, six students found board in this family, and in June and July all of these students suffered from severe attacks of typhoid fever. Fortunately all recovered.

It will be seen from the foregoing history that it is impossible to prevent sickness altogether. It has always been a question with the authorities, when cases of sickness occurred, what to do with them. The situation of the College makes it impossible to provide for them in private families, and hence we have been obliged to treat and nurse them in their rooms, under the most unfavorable circumstances. To obviate the difficulty, President Welch, in 1883, recommended an appropriation of \$4,000 for a hospital for sick students. This the Board cut down to \$2,000. After a struggle with various influences, \$10,000 was obtained for two buildings for the sanitary and veterinary departments. Under this appropriation we have eight rooms for the use of the sick, 9x15x10.

To meet the expenses of the hospital, each student is taxed 60 cents per term, creating a fund of \$360, nearly. The hospital has been completely furnished, at an expense of \$400, out of the College fund.

The following is an estimate of the expense of administration, based on our past experience:

1. A special student, whose duty it shall be to keep the building swept, dusted and aired.....	\$ 75.00
2. Medical attendance.....	100.00
3. Medicine.....	25.00
4. Nurse.....	50.00
	<hr/>
	\$ 250.00

The actual expense of administration for the fall term of the present year (1885) was as follows:

Special student.....	\$ 30.00
Cleaning building.....	12.17
Medicines.....	17.21
Other supplies.....	8.89
Medical services.....	50.00
	<hr/>
	\$ 118.27
Received, 60 cents from 202 students	121.20
	<hr/>
Balance on hand.....	\$ 2.93

Extra expense was incurred this term in the item of cleaning, and some medicines and other supplies are on hand for next year.

The following sanitary survey was made, at the request of the State Board of Health. (The less important questions and replies are omitted.)

Question 3. What is area of land occupied by buildings?

Answer. 160 acres.

Ques. 4. Is the site level, and surrounding country level, uneven, or low and marshy?

Ans. Site and surrounding country uneven.

Ques. 5. If there are marshes or low, wet lands in the vicinity, state the distance, character, extent and variations as to extent of water at different seasons of the year.

Ans. Land along Squaw creek, one-half mile east of College, subject to overflow in high water; now protected by levee.

Ques. 6. In what direction does such low land trend, and is there any drainage thereof?

Ans. South and east; well drained.

Ques. 7. Are there natural water courses near? If so, what is their average width, depth and velocity—rapid, gentle, or sluggish?

Ans. Yes; Squaw creek, three-fourths of a mile east; 30 feet wide—gentle. A creek, four feet wide, runs east and west through the grounds—rapid.

Ques. 8. Do these streams overflow any considerable width of shore in the vicinity of the buildings; if so, what?

Ans. No.

Ques. 9. For what period of time, at what season of the year, and what extent of area is there stagnant water near, and how far distant?

Ans. No stagnant water.

Ques. 10. Is any portion of the land belonging to the institution subject to overflow or saturation of soil? If so, to what degree, at what seasons, and what is the effect on health?

Ans. A portion of the farm lying along Squaw creek, one-half to three-quarters of a mile distant from the building, formerly subject to overflow, now protected by levee; subject to saturation during wet season; too far away to affect health.

Ques. 11. What is the underlying strata of soil from surface downward?

Ans. Loam, yellow clay, blue clay, limestone.

Ques. 12. What is their relative permeability by water?

Ans. Upper strata quite permeable, grading less downward.

Ques. 13. What is the character of the surface soil surrounding the building?

Ans. A rather light loam, dries quickly.

Ques. 15. From what source is the water supply derived?

Ans. From spring.

Ques. 17. What distance is the water brought?

Ans. One half mile.

Ques. 18. What is the form of conduit, and what its capacity?

Ans. One iron pipe, 1½ inch; one 2 inch.

Ques. 20. Is ice water used for drinking?

Ans. Yes.

Ques. 23. How far distant is the nearest barn, hog-yard, privy or cess-pool; and are they higher or lower than the mouth of the well?

Ans. Twenty-five rods; on opposite sides of slough; slightly higher.

Ques. 24. Are the wells so located and constructed as to be free from contamination by surface sewage or cess-pool drainage or infiltration?

Ans. Yes.

Ques. 25. Has the water used been productive of any sickness; if so, what?

Ans. No.

Ques. 26. Is the potable water used hard or soft?

Ans. Hard.

Ques. 27. Has any analysis been made of the water used; if so, give it?

Ans. Yes. Free ammonia, 0.03 per 1,000,000; albuminoid ammonia, 0.10 per 1,000,000; chlorine, 2 grains per gallon.

Ques. 28. What is the capacity of water supply daily?

Ans. Fifteen thousand gallons per day.

Ques. 29. How many gallons per day are supplied for each inmate for all purposes, exclusive of heating?

Ans. Forty gallons.

Ques. 30. What is the character and sufficiency of surface drainage surrounding the buildings?

Ans. Tile drainage; sufficient.

Ques. 31. Have underground drains been constructed exclusively for drainage?

Ans. Yes.

Ques. 32. What is the rate of drainage fall per foot?

Ans. One fourth inch per foot.

Ques. 38. Where do the discharges from wash-basins, sinks, urinals, water-closets and laundries flow.

Ans. Through sewer into Squaw creek.

Ques. 39. Are sewers or drains ventilated; if so, how?

Ans. Yes. Sewer separate from drain; ventilated at two points while passing through College grounds; just before entering College building by pipes running up outside to ten feet above top; and by extension of soil pipe up through roof. Rain pipes all trapped.

Ques. 40. Are sewers or drains trapped? If so, give kind of trap used and where located.

Ans. Yes; half S trap in closet.

Ques. 41. Are odors ever perceptible from sewers or drains; if so, to what extent?

Ans. No.

Ques. 42. Are there cess-pools on the premises; if so, how constructed?

Ans. No.

Ques. 44. What disposition is made of excreta?

Ans. By sewer; water carriage system.

Ques. 46. How many water closets to each ten inmates?

Ans. One.

Ques. 47. What method is used for disinfecting buildings and premises?

Ans. Fresh air; lime.

Ques. 48. What disposition is made of kitchen refuse, garbage, etc.?

Ans. Carried away in carts to the farm.

Ques. 50. Are privy vaults used; if so how are they constructed?

Ans. Only at boarding cottages.

Ques. 53. Is the dry earth closet system used; if so; to what extent?

Ans. No.

Ques. 55. What is the meat supply?

Ans. Beef twice a day; occasionally other meats.

Ques. 56. Is the meat supply satisfactory as to quantity, quality and variety?

Ans. Yes.

Ques. 57. What is the vegetable supply, and is it satisfactory as to quantity and quality?

Ans. Abundant; a variety of common vegetables.

Ques. 58. What is the milk supply?

Ans. Abundant.

Ques. 59. Is the food properly cooked, wholesome in character, and of abundant daily supply?

Ans. Yes.

Ques. 64. How are the buildings heated?

Ans. Steam in main building; stoves in cottages.

Ques. 67. Are the methods used for heating satisfactory and adapted to secure healthful conditions?

A. Yes.

Ques. 72. What is the cubic space per bed or person, in sleeping rooms; and what is the height of sleeping rooms?

Ans. Seven hundred and fifty cubic feet in main building; 480 cubic feet in one cottage; 648 cubic feet in the other. Rooms ten feet high in main building; eight feet in one cottage, and nine feet in the other.

Ques. 85. What is the prevailing sickness among inmates; and at what seasons?

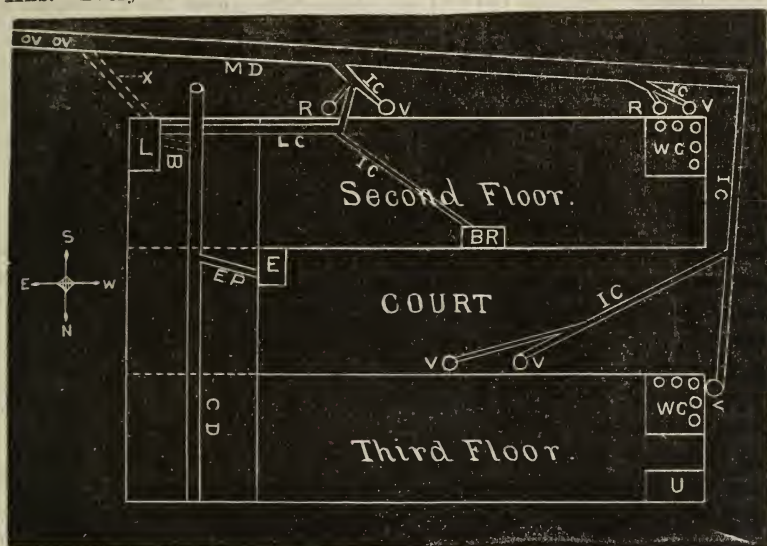
Ans. Catarrhal attacks from exposure during March, April and May.

Ques. 92. Are there shade trees about the building; if so, do they obstruct access of sunlight to the building?

Ans. Yes; do not obstruct sunlight.

Ques. 94. When, how often, and by whom is a sanitary inspection of buildings and premises made?

Ans. Every Monday by Dr. Fairchild.



B. Old laundry drain.

BR. Bath room.

E. Engine room and boiler.

E. P. Exhaust pipe connected with cellar drain.

C. D. Cellar drain.

I. C. Intersecting drainage pipes.

L. Laundry.

L. C. Present laundry drain.

M. D. Main sewer, 10-inch vetrified pipe.

R. Rainwater drain.

U. Urinal.

V. Ventilating ducts.

W. C. Water closets.

X. Proposed new laundry drain.

REPORT OF THE SECRETARY.

[FOR THE BIENNIAL PERIOD ENDING NOVEMBER 11, 1885.]

IOWA AGRICULTURAL COLLEGE, }
NOVEMBER 11, 1885. }

To the Honorable Board of Trustees :

GENTLEMEN—Section 1613 of the Code constitutes the President of the College and the Secretary of the Board of Trustees members of the board of audit. It further provides that the Secretary shall report to your honorable body the proceedings of this auditing board. For the purpose of publication, I have made this report to cover the biennial period ending November 11, 1885.

In the discharge of the duties assigned them by law the board of audit have examined all bills against the College presented for payment allowing such as in their judgment they deemed just and legal claims against the College and for which appropriation had been made by your honorable body. No bills have been paid in excess of such appropriations and no claims allowed except the same have been certified to as correct by the head of the department making the purchase or employing the labor.

Monthly settlements have been made with the Treasurer and his accounts carefully examined. These examinations show that he has debited himself with all cash received and has proper vouchers for all cash paid out. The books as kept during the fiscal year of 1884 by the Deputy Treasurer, Herman Knapp, and during the remainder of the biennial period by the Treasurer, Gen. Geddes, are in excellent shape. Every detail of the financial business of the College is faithfully recorded and can be readily understood by any one not an expert in accounts. Both in form and substance they will stand the test of the most searching examination.

As Secretary of the Board of Trustees I am required to keep an account with the Treasurer of the College. Duplicate receipts of all payments to the Treasurer are filed in my office and the amount of

the same charged against the Treasurer upon my books. The Treasurer is credited with all bills allowed by the board of audit. Monthly comparisons of my accounts are made with the books of the Treasurer. The footings of the two sets of accounts agree thus proving that all bills audited have been paid.

My books show the following receipts and expenditures :

TOTAL RECEIPTS AND DISBURSEMENTS FOR 1884.

RECEIPTS.

Cash on hand at the beginning of the year.....	\$ 7,681.98
From State appropriations.....	14,707.86
From sales of endowment fund land.....	7,138.88
From payment of principal on loans.....	1,400.00
From rental on endowment fund land....	36,560.38
From interest on investments of endowment fund.....	6,236.75
From rental on contingent fund land....	2,825.55
From interest on loans of accumulated interest.....	916.55
From sales by departments.....	8,758.31
From payment of sale notes falling due.....	275.54
From interest on sale notes.....	182.66
From interest on State warrants.....	2.53
From Chicago & Northwestern Railroad Co., rebate on freights	84.15
Right of way damages.....	553.00
From payment on personal accounts.....	1.58
Total receipts for the year.....	\$ 87,325.72

DISBURSEMENTS.

Expended on account of State appropriations.....	\$ 14 401.42
Endowment fund remitted to State Treasurer for investment..	7,255.38
Contingent fund principal remitted Ag't Passett for investment	6,250.00
On account of the various College departments.....	51,269.25
Freight drawbacks to contractor.....	84.15
Invested in sale notes during the year.....	200.00
Amount refunded lessee of ne $\frac{1}{2}$ 29, 93, 30.....	22.21
Total disbursements during the year.....	\$ 79,482.41
Cash balance on hand.....	7,843.31
	\$ 87,325.72

TOTAL RECEIPTS AND DISBURSEMENTS FOR 1885.

RECEIPTS.

Cash on hand at the beginning of the year	\$ 7,843.31
From State appropriations.....	23,295.36
From sale of contingent fund land.....	800.00
From rental of endowment fund land.....	29,543.31
From rental of contingent fund land.....	2,927.95
From interest on investments of endowment fund.....	5,279.02
From interest on loans of accumulated interest.....	1,284.71
From sales by departments	8,911.51
From payment of sale notes falling due.....	825.00
From interest on sale notes	87.54
From interest on State warrants.....	29.40
From room-rent paid by students	1,575.38
From payment by students to the college hospital fund.....	121.20
From payments by students for diplomas	75.50
From payments on donation account.....	3.20
From veterinary hospital transfer fund	300.00
Total receipts for the year	\$ 82,902.39

DISBURSEMENTS.

Expended on account of State appropriations.....	\$ 23,997.40
Expended on account of the various College departments	52,555.20
Expended on account of donation fund.....	38.37
Expended on account of room-rent.....	1,179.94
Expended on account of College hospital fund	118.27
Expended on account of veterinary hospital transfer fund.....	300.00
Paid for diplomas	78.15
Paid contractor interest on State warrants.....	31.90
Invested in sale notes during the year.....	270.03
Total disbursements during the year.....	\$ 78,569.26
Cash balance on hand	4,333.13
Total.....	\$ 82,902.39

The cash balance on hand belongs to the following funds:

State appropriations.....	\$ 978.47
Right of way damages.....	593.50
Room-rent fund.....	395.44
College hospital fund.....	2.93
Contingent principal fund.....	800.00
Interest fund.....	1,562.79
	\$ 4,333.13

I estimate the available funds for the fiscal year of 1886 as follows:

Cash on hand belonging to interest fund.....	\$ 1,562.79
Rental on endowment fund land.....	26,700.00
Rental on land purchased with interest money.....	2,800.00
Interest on investments made by State Treasurer.....	3,835.00
Interest on investments made by agent Sigler.....	9,400.00
Interest on investments made by agent Bassett.....	1,428.00
<hr/>	
Total.....	\$ 45,725.79

Attached to this report will be found exhibits showing the condition of the College endowment fund, the receipts and expenditures for each year, and the investments made by your financial agent.

Respectfully submitted,

E. W. STANTON, *Secretary*.

EXHIBIT A.

The following statement shows the amount and present condition of the lands and funds which constitute the endowment of the College:

Land under lease.....	123,323.64 acres....	\$ 393,599.45
Land not under lease.....	909.67 acres....	3,699.01
Proceeds of sales of endowment fund land.....		223,067.70
Proceeds of sales of land purchased with interest money....		8,600.00
Amount transferred from interest fund.....		12,600.00
		<hr/>
Total endowment fund....		\$ 641,566.16
Lands and funds yielding income... ..		\$ 620,524.45
Lands and funds not yielding income.....		21,041.71
		<hr/>
		\$ 641,566.16

The lands and funds yielding income are as follows:

Endowment fund land under lease, eight per cent	\$ 356,599.94
Endowment fund land under lease, ten per cent.....	880.00
Land purchased with interest money under lease, eight per cent.	36,119.51
Amount invested in bonds at seven per cent.....	200.00
Amount invested in bonds at six per cent.....	34,600.00
Amount invested in bonds at five per cent.....	34,900.00
Amount invested in farm mortgages at eight per cent.....	136,825.00
Amount invested in farm mortgages at seven per cent.....	20,400.00
<hr/>	
Total investments.....	\$ 620,524.45

Lands and funds not yielding income are as follows:

Lands not yielding income	\$	3,699.01
Cash in hands of State Treasurer awaiting investment.....		6,589.36
Cash in hands of financial agent awaiting investment.....		9,953.34
Cash in hands of College treasurer awaiting investment.....		800.00
		<hr/>
Total.....	\$	21,041.71

Investments by the State Treasurer in bonds are as follows:

Winnebago county bonds at six per cent.	\$ 5,600.00
Independent school district, East Des Moines, at five per cent ..	13,500.00
Independent school district, Maquoketa, at six per cent	500.00
Independent school district, Woodlawn, at seven per cent.	200.00
Independent school district, Afton, at six per cent.	9,900.00
Independent school district, Union No. 4, Lott's Creek town- ship. at six per cent.	400.00
Independent school district, Poe township, at six per cent.	600.00
Independent school district, Athens township, at six per cent ..	1,700.00
Independent school district, Harlan, at five per cent.	11,400.00
Independent school district, Stuart, at six per cent	4,000.00
Independent school district, Ames, at five per cent	10,000.00
Security Land and Trust Co. bonds, at six per cent.	5,500.00
Stuart city bonds, at six per cent.	2,000.00
Independent school district, Guthrie Centre, at six per cent.	2,000.00
Independent school district, Prairie, at six per cent.	2,400.00
Total	\$ 69,700.00

Investments made by Agent Bassett in farm mortgages are as follows:

Rev. W. L. Lyons, October 12, 1880, five years, at seven per cent \$	1,600.00
Andrew Jensen, December 1, 1880, five years, seven per cent.	500.00
Franklin J. Stone, January 2, 1882, five years, seven per cent.	400.00
Clarence A. Gabrilson, January 23, 1882, five years, at seven per cent	500.00
Edward Raftery, January 31, 1882, five years, at seven per cent .	1,000.00
Geo. C. McCauley, April 10, 1882, due January 1, 1885, at seven per cent	1,400.00
C. P. and Julia Brainard, July 15, 1882, nine and one half years, at seven per cent	1,050.00
Samuel Flack, January 1, 1883, five years, at seven per cent.	800.00
Benson Searle, June 23, 1883, due January 1, 1884, at seven per cent	1,000.00
Frank and Frederica Bartle, June 8, 1883, due January 1, 1884, at seven per cent.	1,000.00
Catherine and C. H. Pendleton, July 3, 1883, ten years, at seven per cent.	1,000.00
Martin and Barbara Rahm, June 23, 1883, due January 1, 1889, at seven per cent.	700.00
Jeremiah and Mary Kelley, July 10, 1883, due July 1, 1888, at seven per cent.	1,000.00

Erick Helin, October 1, 1883, due January 1, 1889, at seven per cent.....	\$ 600.00
A. W. Alsever, October 11, 1883, due January 1, 1889, at seven per cent	600.00
Oella and C. L. Harris, October 19, 1883, due January 1, 1889, at seven per cent.	1,000.00
Valentine Engest, October 31, 1883, due January 1, 1889, at seven per cent.....	450.00
John P. Hilstrom, December 29, 1883, due January 1, 1889, at seven per cent.....	1,000.00
Joseph Norah, January 18, 1884, due January 1, 1889, at seven per cent.....	600.00
Wm. Rabe and wife, December 27, 1883, due January 1, 1889, at seven per cent.....	700.00
J. Franklin Gage, January 21, 1884, due January 1, 1889, at seven per cent.....	500.00
Michael Schleske, February 4, 1884, due January 1, 1889, at seven per cent.....	1,000.00
J. H. Foley, February 9, 1884, due January 1, 1889, at seven per cent	500.00
Wm. T. Stanbra, February 25, 1884, due January 1, 1889, at seven per cent.....	1,000.00
Total	\$ 20,400.00

Investments made by Agent Sigler in farm mortgages are as follows:

Loans completed and registered in my office as per Exhibit "E," attached to this report	\$ 133,725.00
Loans reported by the agent as made, but papers not yet forwarded for register.....	3,100.00
Total	\$ 136,825.00

EXHIBIT B.

Showing the ordinary income of the Iowa Agricultural College for the fiscal year ending November 12, 1884, together with the expenditures on account of the different departments.

INCOME.

Cash balance on hand November 14, 1883.....	\$ 4,900.91	
Amount received on sale notes on hand at the beginning of the year.....	150.54	
Amount received on personal accounts.....	1.58	
	<hr/>	\$ 5,053.03
Interest on endowment fund invested by the State Treasurer.....	6,236.75	
Rental on endowment fund land.....	36,560.38	
Rental on land purchased in 1868 with interest money.	2,825.55	
Interest on "accumulated interest," loaned on farm mortgages.....	916.55	
Interest on notes.....	182.66	
	<hr/>	46,721.89
		<hr/>
		\$51,774.92

EXPENDITURES.

Salaries.....	\$26,721.24	
Farm department, ordinary expenses and purchases of apparatus and stock.....	\$ 1,277.03	
Farm experiments.....	774.88	
Farm permanent improvements.	300.00	
	<hr/>	2,351.91
Horticultural department.....	928.97	
Public grounds.....	597.00	
Mechanical department.....	1,736.53	
Department of domestic economy...	200.00	
Military department.....	473.73	
Veterinary department...	1,028.12	
Physics.....	121.90	
Botany.....	367.76	
Chemistry.....	397.22	
Entomology, Zoology and Museum.....	572.13	
Civil engineering...	355.45	
Library.....	599.68	
Contingent expense.....	1,708.18	
Public rooms—heating, cleaning and lighting.....	1,700.00	
Office building furniture.....	1,086.79	

Agricultural recitation room fixtures.....	\$ 149.42
North hall—janitor work.....	72.15
Sanitary department.....	12.81
Catalogue for 1883.....	295.66
Catalogue for 1884.....	273.78
Conducting chapel services on the Sabbath.....	300.00
Department bulletins.....	368.72
Net amount expended on diploma account.....	11.58
Net amount expended on account of donation fund.....	80.21

Total ordinary expenses for the year.....	\$42,510.94
Amount refunded lessee of net-29-95-80.....	22.21
Amount transferred to contingent fund principal for investment..	3,600.00
Amount invested in sale notes during the year not paid.....	75.00
Cash balance on hand	5,566.77
	<hr/>
	\$51,774.92

EXHIBIT C.

Showing the ordinary income of the Iowa Agricultural College for the fiscal year ending November 11, 1885, together with the expenditures on account of the different departments.

INCOME.

Cash balance on hand Nov. 12, 1884.....	\$ 5,566.77	
Amount received on sale notes on hand at the beginning of the year.....	825.00	
	<hr/>	\$ 6,391.77
Rental on endowment fund land.....	29,543.31	
Rental on land purchased with interest money....	2,927.95	
Interest on bonds held by State Treasurer.....	4,962.94	
Interest on endowment fund invested by agent Sigler in farm mortgages.....	316.08	
Interest on accumulated interest fund invested by agent Bassett in farm mortgages.....	1,284.71	
Interest on sale notes.....	87.54	
	<hr/>	\$ 39,122.53
		<hr/>
		\$ 45,514.30

EXPENDITURES.

Salaries.....	\$	27,633.65.
Farm department, ordinary expenses and purchases of stock.....	\$	1,885.02
Farm experiments, and class room fixtures and ap- paratus.....		788.13
Farm permanent improvements.....		1,000.00
	<hr/>	\$ 3,673.15.
Horticultural department		756.82
Mechanical department.....		1,074.45
Civil engineering department.....		300.00
Domestic economy department.....		599.18
Veterinary department.....		298.98
Military department.....		218.50
Physics.....		378.76
Botany.....		298.75
Chemistry.....		695.30
Entomology, zoology and museum.....		398.06
Library.....		941.60
Public rooms		2,200.00
Public grounds.....		847.36
Contingent expense.....		2,359.85
Department bulletins.....		158.60
Sabbath services.....		300.00
Sanitary department.....		7.25
North hall—heating and cleaning.....		110.50
Sanitary building furnishing.....		392.95
Net amount expended on account of donation fund.....		35.17
Net amount expended on account of diploma fund.....		2.65
	<hr/>	
Total expenditures.....	\$	43,681.51
Invested on sale notes during the year.....		270.00
Balance, cash on hand.....		1,562.79
	<hr/>	
Total.....	\$	45,514.30

EXHIBIT "D."

Statement, showing for the fiscal year ending November 11, 1885.

- (1) Total expenditure of each department.
- (2) Total income of each department.
- (3) Excess of expenditures over income, showing net amount of appropriations used.
- (4) Appropriations by the Board.

DEPARTMENT.	Total expenditures.	Total income from sales.	Net amount of appropriation expended.	Amount of appropriation.
Farm department	\$ 8,932.06	\$ 5,258.91	\$ 3,673.15	\$ *3,700.00
Mechanical department	1,550.13	475.68	1,074.45	1,075.00
Horticultural department	2,667.66	1,910.84	756.82	1,350.00
Civil engineering department	300.00	.....	300.00	300.00
Domestic economy department	735.95	136.77	599.18	600.00
Veterinary department	400.98	102.00	298.98	300.00
Military department	218.50	.....	218.50	225.00
Physics	378.76	.....	378.76	475.00
Botany	327.78	29.03	298.75	300.00
Chemistry	1,525.11	829.81	695.30	700.00
Entomology, zoology and museum	448.02	49.96	398.06	400.00
Library	941.60	.....	941.60	1,000.00
Salaries	27,633.63	.....	27,633.63	27,856.30
Public rooms	2,200.00	.....	2,200.00	2,200.00
Public grounds	900.41	53.05	847.36	850.00
Contingent expense	2,412.81	52.96	2,359.85	2,694.28
Department bulletins	162.10	3.50	158.60	400.00
Sanitary department	7.25	.....	7.25	25.00
North Hall, heating and cleaning	110.50	.....	110.50	150.00
Sanitary building furnishing	401.95	9.00	392.95	400.00
Sabbath services	300.00	.....	300.00	300.00
	\$ 52,555.20	\$ 8,911.51	\$ 43,643.69	\$ 45,300.58

*Of this amount, \$1,500 is a loan from interest fund, to be returned next year.

EXHIBIT E.

The following is the list of loans of the College Endowment Fund negotiated by Agent D. S. Sigler, and reported by the Secretary of the College to the Board of Trustees and the State Executive Council, as provided by law.

DESCRIPTION OF SECURITY.				Value of security.	NAME OF BORROWER.	Date of loan.	When due.	Date from which borrower has option of payment of principal.	Rate of interest.	Amount of loan.
Number of loan.	Part of Section.	Section.	Township.							
1	nw qr of se qr, se qr of nw qr, ne qr of sw qr, and sw qr of ne qr.....	6	67 26 160	\$3,000.00	Wm. C. & L. C. Wightman.....	Nov.	25, 1884 Jan.	1, 1884 Jan.	8	1,000
2	n hf of ne qr.....	14	70 25 80	2,400.00	Francis M. Thompson.....	Nov.	25, 1884 Jan.	1, 1884 Jan.	8	800
3	n hf of ne qr and se qr of ne qr.....	15	70 25 120	3,000.00	Albert G. Spencer.....	Nov.	25, 1884 Jan.	1, 1884 Jan.	8	800
4	e hf of ne qr (except right of way to railroad).....	15	70 25 74	2,960.00	Eliza A. and Benj. R. Walker.....	Nov.	25, 1884 Jan.	1, 1884 Jan.	8	1,000
5	nw qr.....	11	71 33 160	4,000.00	L. F. Hilton.....	Nov.	25, 1884 Jan.	1, 1884 Jan.	8	1,000
6	e hf of sw qr and nw qr of sw qr.....	35	71 35 120	3,600.00	Hosea Wilson.....	Nov.	28, 1884 Jan.	1, 1884 Jan.	8	1,000
7	n hf of nw qr.....	23	67 40 80	2,500.00	Jas. F. McQueen.....	Dec.	1, 1884 Jan.	1, 1884 Jan.	8	500
8	e hf of nw qr, n hf of ne qr.....	27	68 41 240	10,800.00	Daniel Shull.....	Dec.	1, 1884 Jan.	1, 1884 Jan.	8	2,500
9	e ½ of s ½.....	9	73 33 160	4,000.00	John E. Parish.....	Dec.	15, 1884 Jan.	1, 1890 Jan.	8	1,600
10	ne qr.....	6	70 34 168.68	5,060.40	Edgar H. Smith.....	Dec.	15, 1884 Jan.	1, 1884 Jan.	8	1,400
11	s hf of se qr.....	34	68 27 80	2,000.00	Ben. F. Graham.....	Nov.	25, 1884 Jan.	1, 1884 Jan.	8	800
12	s hf of s hf of se qr, s hf of nw qr of sw qr of se qr.....	16	73 36 115	5,550.00	Edgar J. and Eva N. Farlow.....	Dec.	13, 1884 Jan.	1, 1884 Jan.	8	2,000
13	and n hf of ne qr, se qr of ne qr, and e hf of sw qr of ne qr.....	21	69 41 160	6,000.00	Richard Heaton.....	Dec.	22, 1884 Jan.	1, 1884 Jan.	8	1,500
14	and n hf of nw qr.....	10	68 41 80	3,200.00	Wm. H. Means.....	Dec.	23, 1884 Jan.	1, 1884 Jan.	8	1,000
15	sw qr of nw qr, and nw qr of sw qr.....	26	68 40 80	2,400.00	Lemuel P. Allen.....	Dec.	23, 1884 Jan.	1, 1884 Jan.	8	800
16	se qr of ne qr, and n hf of ne qr of se qr.....	14	70 25 60	1,800.00	George W. Hall.....	Nov.	25, 1884 Jan.	1, 1884 Jan.	8	600
17	s 60 acres of n hf of ne qr.....	25	70 25 60	1,800.00	Mary A. White, J. B. White, Allie White, Flora White.....	Dec.	24, 1884 Jan.	1, 1884 Jan.	8	600
18	e hf of ne qr.....	1	86 36 73.91	1,600.00	Jennie and Albert J. Cobb.....	Dec.	24, 1884 Jan.	1, 1890 Jan.	8	525

EXHIBIT "E."—CONTINUED.

DESCRIPTION OF SECURITY.			Number of acres.	Value of security.	NAME OF BORROWER.	Date of loan.	When due.	Date from which borrower has option of payment of principal.	Rate of interest.	Amount of loan.
Number of loan.	Part of Section.	Section.								
19	h of ne qr and n hf se qr.	19	73 33 160	\$2,600.00	James Garrett.	Jan.	1, 1885 Jan.	1, 1889 Jan.	8	1,200
20	nw qr of sec. 31	31	72 34 199.43	6,980.08	Benjamin Widner.	Jan.	1, 1885 Jan.	1, 1889 Jan.	8	2,500
21	h of ne qr, se qr of ne qr, and ne qr of se qr.	9	84 40 160	4,000.00	William Mertens.	Dec.	24, 1884 Jan.	1, 1889 Jan.	8	1,500
22	nw qr of se qr and sw qr of ne qr.	21	86 37 80	2,000.00	John Severance.	Dec.	22, 1884 Jan.	1, 1889 Jan.	8	500
23	sw qr.	24	87 33 160	3,200.00	John B. Welpton.	Dec.	27, 1884 Jan.	1, 1889 Jan.	8	1,000
24	n hf of nw qr.	9	69 41 80	2,500.00	Mary L. and Henry P. Brown.	Dec.	26, 1884 Jan.	1, 1889 Jan.	8	1,000
25	se qr and w hf of sw qr.	18	67 40 240	7,500.00	Daniel R. Long.	Dec.	15, 1884 Jan.	1, 1889 Jan.	8	2,500
26	e hf of sw qr.	29	89 36 80	1,650.00	F. D. Babcock.	Dec.	27, 1884 Jan.	1, 1889 Jan.	8	700
27	w hf of ne qr, e hf of nw qr and nw qr of se qr.	24	86 36 200	5,000.00	Jacob and George Ackerman.	Dec.	24, 1884 Jan.	1, 1889 Jan.	8	1,800
28	w hf of ne qr.	1	88 37 96.75	2,000.00	Fritz Renatefeldt.	Dec.	29, 1884 Jan.	1, 1889 Jan.	8	600
29	ne qr.	28	72 39 160	8,000.00	Jane and Lennuel Ewing.	Jan.	1, 1885 Jan.	1, 1889 Jan.	8	3,000
30	h of nw qr.	29	72 37 80	2,800.00	Fritz Vetter.	Jan.	1, 1885 Jan.	1, 1889 Jan.	8	800
31	ne qr.	13	71 33 160	5,600.00	Phillip and Margaret Miller.	Jan.	10, 1885 Jan.	1, 1889 Jan.	8	2,250
32	w hf of nw qr.	25	71 35 80	2,800.00	Federick Walter.	Jan.	26, 1885 Jan.	1, 1889 Jan.	8	800
33	ne qr.	28	71 33 160	4,800.00	John F. and Martin B. Mahony.	Feb.	2, 1885 Jan.	1, 1889 Jan.	8	1,800
34	w hf of sw qr.	6	79 39 86.08	3,012.80	J. M. and Anna L. Merzhon.	Jan.	1, 1885 Jan.	1, 1889 Jan.	8	1,200
35	h of nw qr.	30	71 33 84	2,940.00	Matthew J. Lynch.	Jan.	26, 1885 Jan.	1, 1889 Jan.	8	1,000
36	n hf of sw qr and sw qr of sw qr.	11	88 37 120	3,000.00	John H. Anglin.	Dec.	24, 1884 Jan.	1, 1889 Jan.	8	1,000
37	all of ne qr and w hf of ne qr.	19	84 42 640	12,800.00	C. J. McLaughlin.	Dec.	22, 1884 Jan.	1, 1889 Jan.	8	4,000
38	w hf of ne qr and w hf of ne qr.	20	72 40 100	3,500.00	Pemelia and Hadly D. Owen.	Jan.	1, 1885 Jan.	1, 1889 Jan.	8	1,400
39	e hf of ne qr.	34	86 35 120	1,800.00	William Leslie.	Dec.	22, 1884 Jan.	1, 1889 Jan.	8	600
40	ne qr. and sw qr of nw qr.	35	79 37 160	4,800.00	Wheeler and Ellen Uptegrove.	Jan.	1, 1885 Jan.	1, 1889 Jan.	8	2,000
41	h of nw qr and n hf of sw qr.	27	71 38 160	7,200.00	S. W. and Tabitha Dayton.	Jan.	1, 1885 Jan.	1, 1889 Jan.	8	3,000
42	w hf of nw qr.	34	73 35 80	1,600.00	T. M. Cline.	Jan.	1, 1885 Jan.	1, 1889 Jan.	8	500
43	w hf of ne qr and nw qr of sw qr.	32	73 33 120	3,000.00	Frank L. S. Charles and Anna Lawrence.	March	16, 1885 Jan.	1, 1889 Jan.	8	1,000
44	w hf of sw qr.	15	72 34 80	2,000.00	S. W. Cooper.	March	16, 1885 Jan.	1, 1889 Jan.	8	600
45	sw qr.	26	72 34 160	5,600.00	Jane and J. H. Wheeler.	March	24, 1885 Jan.	1, 1889 Jan.	8	2,000
46	h of ne qr.	13	71 34 80	2,000.00	John H. Landers.	March	16, 1885 Jan.	1, 1889 Jan.	8	800
47	h of ne qr.	13	71 34 80	2,000.00	John F. Heaney.	March	15, 1885 Jan.	1, 1889 Jan.	8	800

47	n hf of sw qr	72 32	80	2,240.00	J. D. Martin	March 23, 1885	Jan. 1, 1889	8	900
48	n hf of sw qr	2	88 36	2,000.00	Ada B. and Dan J. K. Grimes	March 16, 1885	Jan. 1, 1889	8	500
49	hf of sw qr	2	88 36	2,400.00	Benjamin Dockstader	March 16, 1885	Jan. 1, 1889	8	600
50	n hf of ne qr	3	87 37	3,500.00	Andrews Eppier	March 26, 1885	Jan. 1, 1889	8	1,400
51	se qr	16	71 33	6,200.00	John Edwards	March 26, 1885	Jan. 1, 1889	8	2,000
52	n hf of se qr and se qr of se qr	11	71 34	6,000.00	Thomas J. Lynch	Jan. 26, 1885	Jan. 1, 1889	8	2,200
53	se qr and e hf of sw qr	36	88 35	6,000.00	Carl Peters	March 26, 1885	Jan. 1, 1889	8	2,400
54	s hf of sw qr and s hf of n hf of sw qr	36	71 24	3,500.00	John and Ellen Wylie	March 26, 1885	Jan. 1, 1889	8	1,200
55	w hf of ne qr	11	89 37	2,000.00	Geo. S. Grandall	March 16, 1885	Jan. 1, 1889	8	750
56	w hf of ne qr	36	88 34	2,400.00	Eugene Fitzgerald	March 26, 1885	Jan. 1, 1889	8	800
57	sw qr of nw qr and nw qr of sw qr	16	76 35	12,500.00	Silas J. Roe	April 10, 1885	Jan. 1, 1889	8	5,000
58	sw qr	17	82	4,000.00	John C. Graham	March 16, 1885	Jan. 1, 1889	8	1,600
59	w hf of sw qr	18	90 40	1,400.00	William H. Fox	March 28, 1885	Jan. 1, 1889	8	500
60	n hf	26	88 35	8,000.00	Ira P. Collier	April 10, 1885	Jan. 1, 1889	8	1,600
61	ne qr	28	84 42	2,000.00	J. B. Brigham	April 15, 1885	Jan. 1, 1889	8	700
62	ne qr	13	90 41	3,200.00	Loran B. and Delilah Fox	March 28, 1885	Jan. 1, 1889	8	1,000
63	e hf of nw qr	14	89 38	2,400.00	William Kelley	March 28, 1885	Jan. 1, 1889	8	800
64	e hf of nw qr and nw qr of se qr	23	90 40	3,260.00	Oscar L. Blackman	April 15, 1885	Jan. 1, 1889	8	1,200
65	e hf of ne qr and sw qr of ne qr	23	90 40	3,260.00	Lewis Porter	April 15, 1885	Jan. 1, 1889	8	1,000
66	n hf of nw qr	16	71 33	2,550.00	John Lyons	April 10, 1885	Jan. 1, 1889	8	1,000
67	sw qr sec. 33 except s qr of se qr of said sw qr	33	71 27	3,000.00	James A. Bone	March 28, 1885	Jan. 1, 1889	8	900
68	ne qr	33	89 34	3,200.00	Mordeca Burdett	March 28, 1885	Jan. 1, 1889	8	1,100
69	se qr	33	89 41	4,000.00	Irving W. Gleason	April 15, 1885	Jan. 1, 1889	8	1,600
70	w hf of nw qr and ne qr of nw qr	9	84 43	7,000.00	Geo. W. Perrin	April 20, 1885	Jan. 1, 1889	8	2,300
71	nw qr	22	89 35	8,000.00	Curtis Orville Lee	May 9, 1885	Jan. 1, 1889	8	2,500
72	n hf of se qr and se qr of se qr	30	72 32	2,400.00	Margaret W. Irwin	June 1, 1885	Jan. 1, 1889	8	500
73	hf of nw qr	13	70 23	2,400.00	Chas. W. and Elizab. K. Cressna	March 28, 1885	Jan. 1, 1889	8	800
74	n hf of nw qr	23	70 23	2,400.00	James W. and Luitilia Chase	June 1, 1885	Jan. 1, 1889	8	850
75	e hf of ne qr	11	73 40	6,440.00	S. L. Swaney	April 1, 1885	Jan. 1, 1889	8	2,000
76	nw qr and 104 acres off the west side of the nw qr	12	76 30	1,600.00	Ira A. Crawford	June 1, 1885	Jan. 1, 1889	8	600
77	n hf of ne qr and ne qr of nw qr	16	90 40	2,000.00	Wm. Foley	June 1, 1885	Jan. 1, 1889	8	700
78	w hf of nw qr	25	70 33	2,000.00	Hiram P. Hull	June 1, 1885	Jan. 1, 1889	8	800
79	e hf of ne qr and sw qr of ne qr	10	90 40	3,000.00	C. M. Hopkins	June 1, 1885	Jan. 1, 1889	8	1,200
80	lot No. 4 and se qr of sw qr	19	96 34	1,600.00	George B. F. Chaffee	May 15, 1885	Jan. 1, 1889	8	600
81	e hf of nw qr	8	92 40	3,300.00	Swell Worthley	June 25, 1885	Oct. 1, 1888	8	1,200
82	s hf of nw qr and nw qr of nw qr	12	82 43	3,000.00	Knud Thorsen	July 1, 1885	Oct. 1, 1888	8	1,000
83	w hf of nw qr	32	73 35	2,000.00	Rebekah Woodward	August 1, 1885	Oct. 1, 1888	8	700
84	s hf of se qr and e hf of sw qr	27	171 35	4,900.00	James W. Hewitt	August 1, 1885	Oct. 1, 1888	8	1,400

EXHIBIT "E"—CONTINUED.

DESCRIPTION OF SECURITY.				Number of acres.	Value of security.	NAME OF BORROWER.	Date of loan.	When due.	Date from which borrower has op- tion of payment of principal.	Rate of interest.	Amount of loan.
Number of loan.	Part of section.										
	Section.	Township.	Range.								
85	nw qr of nw qr sec. 14, except the east 2 acres ne qr of sw qr sec. 14, except the nw 1 acre, and a small tract of said ne qr of sw qr deeded O. Tuttle, Jan. 5, 1888.	15	73 34	116	\$3,500.00	Deborah and Allen Ferry.....	Aug.	1, 1885 Oct.	1, 1890 Oct.	1, 1888 8	800
86	also the ne qr of ne qr.....	14									
87	s hf of se qr and nw qr of se qr and sw qr of ne qr.....	1	90 46	160	3,200.00	Stephen Bonn.....	June	1, 1885 Oct.	1, 1890 Oct.	1, 1888 8	1,200
88	ne qr.....	24	93 40	160	4,000.00	Phebe A. Roberts.....	Aug.	15, 1885 Oct.	1, 1894 Oct.	1, 1888 8	1,600
89	s hf of nw qr and n hf of sw qr.....	12	90 40	160	5,600.00	Elias Dubes.....	Aug.	15, 1885 Oct.	1, 1894 Oct.	1, 1888 8	2,000
90	se qr (except 3/4 of an acre commencing at the se corner of sec. 7, twp. 71, range 34, running west 8 rods, south 15 rods, east 8 rods, and north 15 rods).....	1	72 27	160	3,200.00	John R. Hines.....	Sept.	19, 1885 Oct.	1, 1890 Oct.	1, 1888 8	600
91	se qr of se qr.....	31	71 34	79 3/4	2,000.00	Edgar H. Smith.....	Sept.	14, 1885 Oct.	1, 1894 Oct.	1, 1888 8	600
92	and ne qr of ne qr.....	36	69 20	80	2,500.00	Josephus C. Moore.....	Aug.	25, 1885 Oct.	1, 1894 Oct.	1, 1888 8	500
93	w hf of se qr, and e hf of sw qr.....	13	80 41	160	4,000.00	Anthony Cooper.....	Aug.	15, 1885 Oct.	1, 1894 Oct.	1, 1888 8	1,100
94	ne qr.....	36	81 41	160	4,000.00	Patrick Tierney.....	Sept.	10, 1885 Oct.	1, 1894 Oct.	1, 1888 8	1,000
95	nw qr.....	33	83 41	160	3,200.00	Michael Kiely.....	Sept.	10, 1885 Oct.	1, 1894 Oct.	1, 1888 8	1,000
96	s hf of ne qr, and n hf of se qr.....	32	68 17	160	4,000.00	Emanuel Deahl.....	Sept.	21, 1885 Oct.	1, 1894 Oct.	1, 1888 8	1,500
97	s hf of ne qr of nw qr, and se qr of nw qr, and sw qr of ne qr, and n hf of ne qr of sw qr.....	5	67 20	120	3,000.00	J. G. Givens.....	Sept.	1, 1885 Oct.	1, 1894 Oct.	1, 1888 8	800
98	and s hf of ne qr, except school-house site.....	3	71 40	220	7,700.00	John Lang.....	Sept.	10, 1885 Oct.	1, 1894 Oct.	1, 1888 8	2,000
99	nw qr of ne qr, and e hf of ne qr.....	34	72 40	120	3,000.00	Mary W. & Josiah P. Latimer	Sept.	21, 1885 Oct.	1, 1894 Oct.	1, 1888 8	1,100
100	sw qr.....	2	86 28	160	2,500.00	Volcott B. Pratt.....	Aug.	21, 1885 Oct.	1, 1894 Oct.	1, 1888 8	700
101	nw qr and n hf of sw qr.....	7	90 40	234 48	5,600.00	Thomas R. Mcracken.....	Sept.	1, 1885 Oct.	1, 1894 Oct.	1, 1888 8	1,000
102	w hf of se qr.....	36	98 44	80	1,760.00	R. W. Allen.....	Oct.	1, 1885 Oct.	1, 1890 Oct.	1, 1889 8	700
103	w hf of ne qr.....	29	90 41	80	2,000.00	J. C. and Elizabeth Cory.....	Sept.	1, 1885 Oct.	1, 1894 Oct.	1, 1888 8	750
104	s hf of ne qr.....	36	89 35	80	2,000.00	Francis E. Gordon.....	July	10, 1885 Oct.	1, 1894 Oct.	1, 1888 8	800
104 1/2	w 107 1/2 acres of se qr.....	18	69 21	167 1/2	4,200.00	Sarah R. and L. Hand.....	Aug.	10, 1885 Oct.	1, 1894 Oct.	1, 1888 8	1,300

106	8	bf of ne qr, sec. 15, and that part of the ne qr of nw qr of sec. 16 lying north of Elk creek and east of Soldier river (about 30 acres).....	1 ¹	82	43	167.50	4,175.00	Stephen M. Blackmun.....	Sept.	24, 1885	Oct.	1, 1888	8	1,500
		and that part of the se qr of sw qr of sec. 10, lying south and east of Soldier river (about 17½ acres).....	10											
		and sw qr of ne qr.....	27											
106		ne qr of se qr and n hf of se qr of se qr.....	33	72	32	60	1,500.00	J. T. Tate.....	Oct.	1, 1885	Oct.	1, 1889	8	600
107		n hf se qr.....	35	81	14	90	2,400.00	James Hallantyne.....	Oct.	1, 1885	Oct.	1, 1889	8	800
108		se qr.....	22	91	45	160	4,000.00	Charles Tripp.....	Oct.	10, 1885	Oct.	1, 1889	8	1,000
														\$133,725

REPORT OF THE TREASURER.

[FOR THE YEAR ENDING NOVEMBER 12, 1884.]

The following are the receipts and expenditures on account of the different College funds for the year ending November 12, 1884.

PERMANENT ENDOWMENT FUND.

RECEIPTS.

Balance from last year.....	\$114,516.02
Amount from sale of college lands.....	7,138.88

EXPENDITURES.

Amount paid State Treasurer for investment.....	\$121,654.90	
	<u>\$121,654.90</u>	<u>\$121,654.90</u>

STATE TREASURER.

Balance from last year, land sold.....	\$114,516.02
Amount for land sold in 1884.....	7,138.88
	<u>\$121,654.90</u>

CONTINGENT PRINCIPAL FUND.

RECEIPTS.

Balance from last year.....	\$ 16,800.00
Amount transferred from Interest Fund.....	3,600.00

EXPENDITURES.

Amount invested in mortgages by G. W. Bassett.....	\$ 20,400.00	
	<u>\$ 20,400.00</u>	<u>\$ 20,400.00</u>

MORTGAGE RECEIVABLE.

Balance from last year... ..	\$ 15,550.00	
Amount sent Geo. W. Bassett for investment.....	6,250.00	
Total amount invested.....	<u>\$ 21,800.00</u>	
Amount on mortgages 2, 5 and 11.....		1,400.00
Amount of mortgages on hand.....		<u>20,400.00</u>
	<u>\$ 21,800.00</u>	<u>\$ 21,800.00</u>

INTEREST FUND.

RECEIPTS.

Balance from last year.....	\$ 6,878.37
Amount received from Geo. W. Bassett	36,560.38
Amount transferred from endowment interest fund .	6,236.75
Amount transferred from contingent fund.....	3,742.10
Amount transferred from interest on notes.....	182.66
	<hr/>
Total receipts.....	\$ 53,600.26

EXPENDITURES.

Amount refunded to Chas. F. Banwart.....	\$ 22.21	
Amount transferred to contingent principal fund...	3,600.00	
Paid for farm department.....	2,351.91	
Paid for horticultural department.....	928.97	
Paid for salaries.....	26,721.24	
Paid for department circulars.....	368.72	
Paid for office building furniture.....	1,086.79	
Paid for public grounds.....	597.00	
Paid for mechanical department.....	1,736.53	
Paid for botanical department.....	367.76	
Paid for veterinary department.....	1,028.12	
Paid for physical department.....	121.90	
Paid for chemical department.....	397.22	
Paid for civil engineering department.....	355.45	
Paid for museum, entomology and zoology.....	572.13	
Paid for domestic economy.....	200.00	
Paid for military department.....	473.73	
Paid for sanitary department.....	12.81	
Paid for contingent expenses.....	1,708.18	
Paid for public rooms.....	1,700.00	
Paid for chapel services.....	300.00	
Paid for north hall.....	72.15	
Paid for agricultural recitation room fixtures.....	149.42	
Paid for library.....	599.68	
Paid for catalogues of 1884.....	273.78	
Paid for catalogues of 1883.....	295.66	
	<hr/>	<hr/>
Total expended.....	\$ 46,041.36	\$ 53,600.26
Amount unexpended.....	7,558.90	
	<hr/>	<hr/>
	\$ 53,600.26	\$ 53,600.26

BILLS RECEIVABLE.

Balance from last year.....	\$	1,687.79	
Amount paid for notes received in 1884.....		200.00	
Total notes received.....	\$	1,887.79	
Notes paid during year 1884.....	\$	275.54	
Amount of notes on hand.....		1,612.25	
	\$	1,887.79	\$ 1,887.79

DIPLOMAS.

RECEIPTS.

Balance from last year.....	\$	70.13
Amount received from students for diplomas.....		64.00

EXPENDITURES.

Amount paid on account of diplomas.....	\$	75.58
Balance unexpended.....		58.55
	\$	134.13
	\$	134.13

DONATION FUND.

RECEIPTS.

Amount on hand from last year.....	\$	118.73
Amount received during year.....		88.20

EXPENDITURES.

Amount paid sundry persons as per orders.....	\$	168.41
Amount unexpended.....		38.52
	\$	206.93
	\$	206.93

INTEREST ON STATE WARRANTS.

RECEIPTS.

Amount received from State Treasurer.....	\$	2.53
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EXPENDITURES.

Amount unexpended.....	\$	2.53
	\$	2.53
	\$	2.53

PERSONAL ACCOUNTS.

Debit balance from last year.....	\$ 478.53		
Amount received on account.....		\$ 1.58	
Amount to balance.....			476.95
	<u>\$ 478.53</u>	<u>\$</u>	<u>478.53</u>

CASH ACCOUNT.

RECEIPTS.

Balance from last year.....	\$ 7,681.98
Amount received from all sources.....	79,643.74
Total receipts.....	<u>\$ 87,325.72</u>

EXPENDITURES.

Amount paid out as per vouchers in deputy Treasurer's office		\$ 79,482.41
Cash on hand, State appropriations.....	\$ 1,680.51	
Cash on hand, other sources	6,162.80	7,843.31
	<u>\$ 87,325.72</u>	<u>\$ 87,325.72</u>

FARM DEPARTMENT.

EXPENDITURES.

Paid for farm stock.....	\$ 331.70
Paid for farm experiments	774.88
Paid for farm permanent improvements.....	300.00
Paid for farm current improvements.....	98.12
Paid for farm tools	267.71
Paid for farm produce.....	579.50
Total expended.....	<u>\$ 2,351.91</u>

HORTICULTURAL DEPARTMENT.

RECEIPTS.

Amount received from small fruits.....	\$ 128.19
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EXPENDITURES.

Paid for horticulture and forestry.....	\$ 592.75	
Paid for orchard.....	28.66	
Paid for propagating house.....	49.52	
Paid for experimental horticulture.....	385.93	
Paid for vegetable garden.....	30	
	<u>\$ 1,057.16</u>	<u>\$ 128.19</u>
Total expended over receipts to balance.....		<u>\$ 928.97</u>
	<u>\$ 1,057.16</u>	<u>\$ 1,057.16</u>

GENERAL SUMMARY.

	Dr.		Cr.
Mortgage receivable.....	\$ 20,400.00	Contingent fund.....	\$ 20,400.00
Bills receivable.....	1,612.25	Railroad damages	593.50
Personal accounts.....	476.95	Donation fund	38.52
Cash account.....	6,162.80	Diplomas	58.55
		Interest on State war'ts..	2.53
		Interest fund.....	7,558.90
	<hr/>		<hr/>
	\$ 28,652.00		\$ 28,652.00

APPROPRIATIONS OF NINETEENTH GENERAL ASSEMBLY.

RECEIPTS.

Balance on hand from last year.....	\$ 1,374.07
Amount received from State Treasurer.....	880.22

EXPENDITURES.

Amount expended as per vouchers.....	\$ 2,212.20
Cash on hand.....	42.09
	<hr/>
	\$ 2,254.29
	<hr/>
	\$ 2,254.29

APPROPRIATIONS OF TWENTIETH GENERAL ASSEMBLY.

RECEIPTS.

Amount received from State Treasurer	\$ 13,827.64
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EXPENDITURES.

Amount expended as per vouchers	\$ 12,189.22
Cash on hand.....	1,638.42
	<hr/>
	\$ 13,827.64
	<hr/>
	\$ 13,827.64

Respectfully submitted,

W. M. GREELEY,
Treasurer.
 HERMAN KNAPP,
Deputy Treasurer.

REPORT OF THE TREASURER.

[FOR THE YEAR ENDING NOV. 11, 1885.]

The following are the receipts and expenditures of the different College funds for the year ending November 11, 1885.

CONTINGENT PRINCIPAL FUND.

RECEIPTS.

Balance from last year.....	\$ 20,400.00
Amount from State Treasurer.....	800.00

EXPENDITURES.

Amount invested in mortgages by G. W. Bassett....	\$ 20,400.00	
Balance on hand	800.00	
	<hr/>	<hr/>
	\$ 21,200.00	\$ 21,200.00

MORTGAGE RECEIVABLE.

Balance from last year.....	\$ 20,400.00	
	<hr/>	
Total amount invested.....	\$ 20,400.00	
Amount of mortgages on hand.....		\$ 20,400.00
	<hr/>	<hr/>
	\$ 20,400.00	\$ 20,400.00

INTEREST FUND.

RECEIPTS.

Balance from last year ..	\$ 7,558.90
Amount received from G. W. Bassett.....	29,543.31
Amount transferred from contingent fund.....	4,212.66
Amount transferred from interest on notes.....	87.54
Amount transferred from endowment interest fund.	5,279.02
	<hr/>
Total receipts.....	\$ \$46,681.43

EXPENDITURES.

Paid for farm department.....	\$ 3,673.15	
Paid for horticultural department.....	756.82	
Paid for salaries....	27,633.63	
Paid for public grounds.....	847.36	
Paid for mechanical department....	1,074.45	
Paid for sanitary building furnishing.....	392.95	
Paid for botanical department	298.75	
Paid for veterinary department	298.98	
Paid for physical department.....	378.76	
Paid for chemical department.....	695.30	
Paid for civil engineering department.....	300.00	
Paid for museum, zoology, and entomology... ..	398.06	
Paid for domestic economy.....	599.18	
Paid for military department.....	218.50	
Paid for sanitary department	7.25	
Paid for north hall.....	110.50	
Paid for chapel services... ..	300.00	
Paid for public rooms.....	2,200.00	
Paid for library	941.60	
Paid for contingent expenses.....	2,359.85	
Paid for department circulars.....	158.60	
Total expended	\$ 43,643.69	\$ 46,681.43
Amount unexpended.....	\$ 3,037.74	
	\$ 46,681.43	\$ 46,681.43

BILLS RECEIVABLE.

Balance from last year.....	\$ 1,612.25	
Amount paid for notes received in 1884 ..	270.00	
Total notes received.....	\$ 1,882.25	
Notes paid during the year 1885		825.00
Amount of notes on hand		1,057.25
	\$ 1,882.25	\$ 1,882.25

DIPLOMAS.

RECEIPTS.

Balance from last year	58.55
Amount received from students for diplomas.....	75.50

EXPENDITURES.

Amount paid on account of diplomas.....	\$ 78.15	
Balance unexpended.....	55.90	
	\$ 134.05	\$ 134.05

DONATION FUND.

RECEIPTS.

Amount on hand from last year	\$	38.52
Amount received during the year		3.20

EXPENDITURES.

Amount paid sundry persons as per vouchers.....	\$	38.37		
Amount unexpended		3.35		
	\$	41.72	\$	41.72

INTEREST ON STATE WARRANTS.

RECEIPTS

Amount from last year.....	\$	2.53
Amount from State Treasurer ...		29.40

EXPENDITURES.

Amount paid as per vouchers.....	\$	31.93		
	\$	31.93	\$	31.93

PERSONAL ACCOUNTS.

Debit balance from last year.....	\$	476.95		
Amount to balance.....			\$	476.95
	\$	476.95	\$	476.95

FARM DEPARTMENT.

EXPENDITURES.

Paid for farm stock	\$	123.71		
Paid for farm experiments.....		523.38		
Paid for farm permanent improvements.....		1,000.00		
Paid for farm current improvements....		741.13		
Paid for farm tools.....		311.25		
Paid for farm produce.....		708.93		
Paid for farm fixtures and apparatus.....		264.75		
Total expended.....	\$	3,673.15		

HORTICULTURAL DEPARTMENT.

RECEIPTS.

Amount received from orchard	\$	72.71
Amount received from vegetable garden.....		11.04
Amount received from small fruits.....		56.30

EXPENDITURES.

Paid for horticulture and forestry.....	\$	437.51	
Paid for propagating house.....		7.68	
Paid for experimental horticulture.....		451.68	
		<hr/>	
	\$	896.87	
Total expended over receipts to balance.....			756.82
		<hr/>	<hr/>
	\$	896.87	\$ 896.87

CASH ACCOUNT.

RECEIPTS.

Balance from last year	\$	7,801.22
Amount received from all sources.....		75,101.17
		<hr/>
Total receipts.....	\$	82,902.39

EXPENDITURES.

Amount paid out as per vouchers in treasurer's office.	\$	78,569.26	
Cash on hand, State appropriations.....	\$	978.47	
Cash on hand from other sources.....	3,354.66		4,333.13
		<hr/>	<hr/>
	\$	82,902.39	\$ 82,902.39

GENERAL SUMMARY.

	Dr.		Cr.
Bills receivable.....	\$ 1,057.25	Railroad damages.....	\$ 593.50
Mortgage receivable.....	20,400.00	Contingent principal fund.	21,200.00
Personal accounts.....	476.95	Donation fund	3.35
Cash on hand.....	3,354.66	Diplomas.....	55.90
		Room rent fund.....	395.44
		College hospital fund....	2.93
		Interest fund.....	3,037.74
	<hr/>		<hr/>
	\$ 25,288.86		\$25,288.86

The following is a statement of receipts and expenditures on account of the appropriations of the Nineteenth and Twentieth General Assemblies during the biennial period ending November 11, 1885:

APPROPRIATIONS OF THE NINETEENTH GENERAL ASSEMBLY.

ENGINEERING HALL.

RECEIPTS.

Balance on hand November 20, 1883.....	\$ 675.00
Cash received from State treasurer.....	473.00

EXPENDITURES.

Amount paid as per vouchers.....	\$ 1,115.00	
Amount transferred to veterinary hospital per order board of trustees....		33.00
	<hr/>	<hr/>
	\$ 1,148.00	\$ 1,148.00

PROFESSORS' HOUSES.

RECEIPTS.

Amount received from State treasurer.....	\$ 132.09
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EXPENDITURES.

Amount paid as per vouchers.....	\$ 132.09	
	<hr/>	<hr/>
	\$ 132.09	\$ 132.09

VETERINARY HOSPITAL.

RECEIPTS.

Amount transferred from engineering hall by order of the board.....	\$ 33.00
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EXPENDITURES.

Amount paid F. Turner for work.....	\$ 33.00	
	<hr/>	<hr/>
	\$ 33.00	\$ 33.00

APPROPRIATIONS OF THE TWENTIETH GENERAL ASSEMBLY.

PUMP HOUSE.

RECEIPTS.

Amount received from state treasurer\$ 800.00

EXPENDITURES.

Amount paid as per vouchers.....	\$	780.00
Amount transferred to other accounts by order of board of trustees.....		20.00
	\$	800.00
	\$	800.00

VETERINARY BUILDINGS.

RECEIPTS.

Amount from State Treasurer\$ 10,000.00
 Amount transferred from various accounts by order of board of trustees..... 600.76

EXPENDITURES.

Amount paid as per vouchers	\$	10,600.76
	\$	10,600.76
	\$	10,600.76

NORTH FARM HOUSE AND BARN.

RECEIPTS.

Amount received from State Treasurer.....\$ 1,500.00
 Amount transferred from sundry accounts per order of board of trustees 75.00

EXPENDITURES.

Amount paid as per vouchers....	\$	1,575.00
	\$	1,575.00
	\$	1,575.00

OFFICE BUILDING.

RECEIPTS.

Amount received from State Treasurer.....\$ 3,000.00
 Amount transferred from sundry accounts by order board of trustees..... 117.10

EXPENDITURES.

Amount paid as per vouchers.....	\$	3,117.10
	\$	3,117.10
	\$	3,117.10

BUDD'S HOUSE AND ADDITION.

RECEIPTS.

Amount received from State Treasurer.....	\$ 2,800.00
Amount transferred from sundry accounts by order of board of trustees.....	11.20

EXPENDITURES.

Amount paid as per vouchers....	\$ 2,811.20	
	<hr/>	<hr/>
	\$ 2,811.20	\$ 2,811.20

PROFESSOR'S HOUSE.

RECEIPTS.

Amount received from State Treasurer	\$ 3,000.00
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EXPENDITURES.

Amount paid as per vouchers.....	\$ 2,725.00	
Amount transferred to sundry accounts by order of board of trustees....	275.00	
	<hr/>	<hr/>
	\$ 3,000.00	\$ 3,000.00

ADDITION TO ENGINEERING HALL.

RECEIPTS.

Amount received from State Treasurer.....	\$ 7,500.00
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EXPENDITURES.

Amount paid as per vouchers.....	\$ 6,990.94
Amount transferred to veterinary buildings by order of board of trustees.....	509.06
	<hr/>
	\$ 7,500.00
	<hr/>
	\$ 7,500.00

ELECTRIC LIGHT.

RECEIPTS.

Amount received from State Treasurer.....	\$ 3,500.00
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EXPENDITURES.

Amount paid as per vouchers.....	\$ 3,500.00	
	<hr/>	<hr/>
	\$ 3,500.00	\$ 3,500.00

ANNUAL APPROPRIATIONS.]

STATE CONTINGENT FUND OF 1884.

RECEIPTS.

Amount received from State Treasurer.....\$ 1,000.00

EXPENDITURES.

Amount paid as per vouchers.....		\$ 1,000.00
	<u> </u>	<u> </u>
	\$ 1,000.00	\$ 1,000.00

STATE CONTINGENT FUND OF 1885.

RECEIPTS.

Amount received from State Treasurer.....\$ 1,000.00

EXPENDITURES.

Amount paid as per vouchers		\$ 1 942.53
Cash on hand to balance.....		57.47
	<u> </u>	<u> </u>
	\$ 1,000.00	\$ 1,000.00

STATE EXPERIMENTAL FUND OF 1884.

RECEIPTS.

Amount received from State Treasurer.....\$ 1,500.00

EXPENDITURES.

Amount paid as per vouchers		\$ 1,500.00
	<u> </u>	<u> </u>
	\$ 1,500.00	\$ 1,500.00

STATE EXPERIMENTAL FUND OF 1885.

RECEIPTS.

Amount received from State Treasurer.....\$ 1,500.00

EXPENDITURES.

Amount paid as per vouchers.....		\$ 579.00
Cash on hand to balance.....		921.00
	<u> </u>	<u> </u>
	\$ 1,500.00	\$ 1,500.00

Respectfully submitted,

JAMES L. GEDDES, *Treasurer.*

SETTLEMENT WITH LAND AGENT BASSETT.

REPORT OF SECRETARY.

AGRICULTURAL COLLEGE, Nov. 6, 1885.

To the Honorable Board of Trustees:

GENTLEMEN—Annual settlements have been made with Agent Bassett for the biennial period ending November 1, 1885. The following is a brief outline of the method adopted in making such settlements: A complete set of land books is kept in my office. In these is recorded both the land included in the congressional grant and that purchased in 1868 with surplus interest money. An account is kept with each tract of land; the agent is charged with the same and must account therefor. All money received from the sale of land is transmitted by the agent to the State Treasurer and duplicate receipts for the same filed in my office. On the remainder of the tracts charged to him the agent must remit to the College Treasurer an annual rental equal to eight per cent on the valuation fixed by the Board of Trustees or else report the lease to your honorable body for forfeiture. All these items are reported to me, credited to the agent, and posted to the account with the different tracts. At the end of each month my books show the exact condition of each lease and any failure upon the part of the agent to account for all the land charged against him would thus be made known. At the close of each fiscal year these books are compared with those of the agent and all of his accounts are carefully examined.

At the beginning of the biennial period the agent was charged with the following lands:

Land included in the Congressional grant under lease, acres.....	154,638.30
Land included in the Congressional grant not under lease, acres.	469.67
	<hr/>
	155,107.97
Land purchased with interest money under lease, acres.....	11,333.17
	<hr/>
	166,441.14

In the settlement November 1, 1885, this land was accounted for as follows:

Land included in the Congressional grant sold during the biennial period, acres.....	42,047.83
Land included in Congressional grant under lease, acres.....	112,470.47
Land included in Congressional grant forfeited and not re-appraised, acres.....	360.00
Land included in Congressional grant and in conflict with swamp entry, acres.....	229.67
	<hr/>
	155,107.97
Land purchased with interest money, sold during the biennial period, acres.....	160.00
Land purchased with interest money under lease, acres.....	10,853.17
Land purchased with interest money forfeited and not re-appraised, acres.....	320.00
	<hr/>
	166,441.14

It will be seen from the above that the agent has accounted for all the land charged against him. The total sales of land to date are:

Of the land included in the Congressional grant, acres.....	91,146.22
Of the land purchased with interest money, acres.....	3,840.00
	<hr/>
	94,986.22

The following is the land now owned by the College:

Land included in the Congressional grant, acres.....	113,060.14
Land purchased with interest money, acres.....	11,173.17
	<hr/>
Total number of acres owned by the College.....	124,233.31

Leases covering 40,982.79 acres or nearly one-third of the above, have been renewed during the biennial period under the provisions of chapter 72, acts of the Twentieth General Assembly.

The land sold during the two years was appraised at.....\$ 108,551.68

The amount is accounted for as follows:

Forwarded by the agent through the College Treasurer to the Treasurer of State.....	7,138.88
Remitted directly to the Treasurer of State, under the law of the last General Assembly.....	\$ 101,296.30
Paid in previously to the Treasurer of the College as right of way damages, and under order of the Board applied as part payment of principal.....	116.50
	<hr/>
	\$ 108,551.68

The amount realized prior to Nov. 1, 1883, from the sales of land belonging to the Congressional grant was	\$ 114,516.02
Adding to this the sales of the last two years.....	108,551.63

We have as the total sum received from the sale of endowment fund land.....\$ 223,067.70

From the sale of land purchased with interest money the sum of \$800 was realized. This amount was remitted by the agent to the Treasurer of State, and by him forwarded to the College Treasurer and credited to the contingent principal fund. It remains for your honorable body to determine whether the money received from this source shall be treated as a portion of the College endowment or as a separate fund to be invested as the Board may direct. Your attention is called in this matter to the provisions of chapter 72, acts of the Twentieth General Assembly.

The total amount received thus far from sales of the "Sioux City purchase" is\$ 8,600.00

Rental on land belonging to the College has been collected by the agent and remitted to the College Treasurer as follows:

On endowment fund land for the year ending Nov. 1, 1884	\$ 36,560.38
For the year ending Nov. 1, 1885.....	29,543.31
	<hr/>
	\$ 66,103.69

On land purchased with interest]money for the year ending Nov. 1, 1884	\$ 2,825.55
For the year ending Nov. 1, 1885	2,927.95
	<hr/>
	\$ 5,753.50

At the beginning of the biennial period the investments of accumulated interest fund in farm mortgages amounted to.....	\$ 15,550.00
Mortgages have since been paid and remittances made by the agent to the College Treasurer to the amount of	1,400.00

Amount remaining invested.....\$ 14,150.00

Amount drawn from the College Treasurer and invested during the biennial period	\$ 6,250.00
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Total interest fund invested in farm mortgages\$ 20,400.00

Interest on this investment has been collected and remitted to the College Treasurer as follows:

For the year ending Nov. 1, 1884.....	\$ 916.55
For the year ending Nov. 1, 1885.....	1,284.71
	<hr/>
	\$ 2,201.26

During the last two years there has been paid to Agent Bassett, on railroad right of way damages on College land under lease, the sum of\$ 553.00

This amount has been paid over by him to the College Treasurer. Under the order of the Board it is held in trust until the land is sold, when it is applied in part payment. The sum of \$116.50 has been thus applied during the biennial period, leaving with the balance of \$157 on hand at the beginning of the year a present balance to the credit of this fund of \$593.50.

By a careful examination of the books of the agent I have satisfied myself that his accounts are correct.

The department is now in excellent condition. At the beginning of the biennial period it was confronted with two most difficult questions. The Attorney-General had decided that under the law of 1874, limiting the amount leased to any one man to one hundred and sixty acres, all leases or renewals which had passed by assignment through the hands of any person who held or who had previously held another College lease, were void. This serious cloud upon the title of lessees was entirely removed by the action of the last General Assembly.

The second question affecting the interests of the College related to the right of renewing leases. Under the law, the right of renewal had terminated. A large number of leases would soon fall due. The change thus made necessary in the method of investment of a considerable portion of the endowment fund, would effect a marked reduction in the income of the College. This threatened financial embarrassment has been at least temporarily averted by the act of the Legislature granting the right of renewal to all lessees.

Since the passage of this act leases have been renewed as follows:

For the term of ten years.....	\$ 43,254.66
For the term of five years.....	62,636.29
	<hr/>
Total.....	\$ 105,890.95

During the same time the payment of principal on expired leases has amounted to \$101,312.80, showing a slight excess of renewals over final payments. The number of renewals during the last summer was unexpectedly large, and since the interest on these renewals is

paid in advance this fact has added somewhat to the estimated income for the present year. In determining the financial policy of the institution, it is however well to remember that the principal on these leases will eventually be paid in, and that then, temporarily at least, the income of the College will be materially reduced. The principal upon the leases now in force falls due as follows:

In the fiscal year 1886.....	\$ 43,000
In the fiscal year 1887	24,000
In the fiscal year 1888	25,000
In the fiscal year 1889.....	37,000
In the fiscal year 1890.....	122,000
In the fiscal year 1891.....	50,000
In the fiscal year 1892	47,000
In the fiscal year 1894.....	23,000
In the fiscal year 1895.....	21,000
Total.....	<u>\$392,000</u>

I estimate that the principal of leases expiring during the next fiscal year, to the amount of \$23,000, will be paid in, and the estimated income for that year is reckoned on this basis.

Your attention is called to the fact that the contract of the Board of Trustees with agent Bassett will expire December 31, 1885.

Respectfully submitted,

E. W. STANTON, *Secretary*.

REPORT OF LAND AGENT.

To the Board of Trustees of Iowa State Agricultural College and Farm :

The following report of the transactions of the Land Department of the Iowa State Agricultural College, from November 1, 1883, to October 31, 1885, inclusive, is hereby submitted for your consideration.

Interest, or rent, upon leases belonging to the Congressional grant has been collected as follows :

1883.

To amount collected month of November.....	\$ 4,222.77
To amount collected month of December.....	2,931.29

1884.

To amount collected month of January.....	2,307.02
To amount collected month of February.....	1,683.04
To amount collected month of March.....	2,446.05
To amount collected month of April.....	1,938.19
To amount collected month of May.....	1,337.12
To amount collected month of June.....	4,490.04
To amount collected month of July.....	3,711.30
To amount collected month of August.....	3,346.63
To amount collected month of September.....	3,310.32
To amount collected month of October ...	4,836.61

1883.

By amount remitted November 30, voucher No. 164.....	\$ 4,222.77
By amount remitted December 31, voucher No. 165.....	2,931.29

1884.

By amount remitted January 31, voucher No. 166..	2,307.02
By amount remitted February 29, voucher No. 167..	1,683.04
By amount remitted March 31, voucher No. 168....	2,446.05
By amount remitted April 30, voucher No. 169.....	1,938.19
By amount remitted May 31, voucher No. 170.....	1,337.12
By amount remitted June 30, voucher No. 171.....	4,490.04
By amount remitted July 31, voucher No. 172.....	3,711.30
By amount remitted August 30, voucher No. 173...	3,346.63
By amount remitted September 30, voucher No. 174	3,310.32
By amount remitted October 31, voucher No. 175...	4,836.61

Total amount collected and paid to College Treasurer during the fiscal year ending October 31,

1884 \$ 36,560.38 \$ 36,560.38

1884.

To amount collected month of November.....\$	2,529.62
To amount collected month of December.	2,351.20

1885.

To amount collected month of January.....	2,186.87
To amount collected month of February.....	2,171.34
To amount collected month of March.....	1,725.53
To amount collected month of April.....	1,036.53
To amount collected month of May.....	2,309.57
To amount collected month of June.....	3,669.81
To amount collected month of July.....	2,899.61
To amount collected month of August.....	3,152.15
To amount collected month of September.	2,642.68
To amount collected month of October.....	2,868.40

1884.

By amount remitted November 30, voucher No. 176.	\$ 2,529.62
By amount remitted December 31, voucher No. 177.	2,351.20

1885.

By amount remitted January 31, voucher No. 178...	2,186.87
By amount remitted February 28, voucher No. 179.	2,171.34
By amount remitted March 31, voucher No. 180....	1,725.53
By amount remitted April 30, voucher No. 181....	1,036.53
By amount remitted May 31, voucher No. 182.....	2,309.57
By amount remitted June 30, voucher No. 183.....	3,669.81
By amount remitted July 31, voucher No. 184.....	2,899.61
By amount remitted August 30 voucher No. 185...	3,152.15
By amount remitted September 30, voucher No. 186	2,642.68
By amount remitted October 31, voucher No. 187..	2,868.40

Total amount collected and paid to College Treasurer during the fiscal year ending October 31,

1885.....	\$ 29,543.31	\$ 29,543.31
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CONTINGENT INTEREST.

1883.

To amount collected month of November.....\$	102.40
To amount collected month of December	76.80

1884.

To amount collected month of January.....	329.60
To amount collected month of February.....	128.00
To amount collected month of March.....	204.00
To amount collected month of April.....	176.00
To amount collected month of May.....	425.55
To amount collected month of June	144.00
To amount collected month of July.....	182.40
To amount collected month of August ...	291.20
To amount collected month of September... ..	80.00
To amount collected month of October	681.60

1883.

By amount remitted November 30, voucher No. 82	\$	102.40
By amount remitted December 31, voucher No. 83.....		76.80

1884.

By amount remitted January 31, voucher No. 84	329.60
By amount remitted February 29, voucher No. 85	128.00
By amount remitted March 31, voucher No. 86	208.00
By amount remitted April 30, voucher No. 87	176.00
By amount remitted May 31, voucher No. 88	425.55
By amount remitted June 30, voucher No. 89	144.00
By amount remitted July 31, voucher No. 90	182.40
By amount remitted August 30, voucher No. 91	291.20
By amount remitted September 30, voucher No. 92....	80.00
By amount remitted October 31, voucher No. 93	681.60

Total amount collected and paid to College treasurer during the fiscal year ending October 31, 1884. \$ 2,825.55 \$ 2,825.55

1884.

To amount collected month of November	\$ 192.00
To amount collected month of December	278.40

1885.

To amount collected month of January	38.40
To amount collected month of February	320.00
To amount collected month of March	144.00
To amount collected month of April	169.60
To amount collected month of May	361.55
To amount collected month of June	211.20
To amount collected month of July	188.80
To amount collected month of August	176.00
To amount collected month of September	316.80
To amount collected month of October	531.20

1884.

By amount remitted November 30, voucher No. 94	\$	192.00
By amount remitted December 31, voucher No. 95 ..		278.40

1885.

By amount remitted January 31, voucher No. 96	38.40
By amount remitted February 28, voucher No. 97	320.00
By amount remitted March 31, voucher No. 98	144.00
By amount remitted April 30, voucher No. 99	169.60
By amount remitted May 31, voucher No. 100	361.55
By amount remitted June 30, voucher No. 101	211.20
By amount remitted July 31, voucher No. 102	188.80
By amount remitted August 31, voucher No. 103	176.00
By amount remitted September 30, voucher No. 104...	316.80
By amount remitted October 31, voucher No. 105	531.20

Total amount collected and paid to College treasurer during the fiscal year ending October 31, 1885. \$ 2,927.95 \$ 2,927.95

The foregoing fund is derived from interest collected on leases of the lands known as the "Sioux City purchase."

INTEREST ON LOANS OF CONTINGENT FUND.

1883.

November 30, to interest collected.....	\$	5.83	
November 30, by remitted to College treasurer, voucher			
No. 17.....	\$		5.83
December 31, to interest collected.....		276.93	
December 31, by remitted to College treasurer, voucher			
No. 18.....			276.93

1884.

January 31, to interest collected.....		333.04	
January 31, by remitted to College treasurer, voucher			
No. 19.....			333.04
March 31, to interest collected.....		28.10	
March 31, by remitted to College treasurer, voucher			
No. 20.....			28.10
July 31, to interest collected.....		166.05	
July 31, by remitted to College treasurer, voucher			
No. 21.....			166.05
October 31, to interest collected.....		106.60	
October 31, by remitted to College treasurer, voucher			
No. 22.....			106.60

Amount collected and paid to College treasurer during the fiscal year ending October 31, 1884..	\$	916.55	\$	916.55
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1884.

December 31, to interest collected.....	\$	710.56	
December 31, by remitted to College treasurer, voucher			
No. 23.....	\$		710.56

1885.

January 31, to interest collected.....		427.15	
January 31, by remitted to College treasurer, voucher			
No. 24.....			427.15
July 31, to interest collected.....		98.00	
July 31, by remitted to College treasurer, voucher			
No. 25.....			98.00
October 31, to interest collected.....		49.00	
October 31, by remitted to College treasurer, voucher			
No. 26.....			49.00

Amount collected and paid to College treasurer during the fiscal year ending October 31, 1885..	\$	1,284.71	\$	1,284.71
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PRINCIPAL ON LOANS OF CONTINGENT FUND.

1884.

January 31, to principal collected.....	\$ 1,100.00	
January 31, by remitted to College treasurer, voucher No. 3.....		\$ 1,100.00
May 31, to principal collected.....	300.00	
May 31, by remitted to College treasurer, voucher No. 4		300.00
<hr/>		
Total amount collected and paid to College treasurer during fiscal year ending Oct. 31, 1884	\$ 1,400.00	\$ 1,400.00

RIGHT OF WAY DAMAGES FOR RAILROADS.

1884.

January 31, to amount received	\$ 480.50	
January 31, by remitted to College treasurer, voucher No. 2.....		\$ 480.50
February 29, to amount received	72.50	
February 29, by remitted to College treasurer, voucher No. 3.....		72.50
<hr/>		
Total amount collected and paid to College treasurer during fiscal year ending October 31, 1884.	\$ 553.00	\$ 553.00

CONTINGENT FUND PRINCIPAL ACCOUNT.

1885.

January 30, to amount collected.....	\$ 800.00	
January 30, by remitted to State Treasurer, voucher No. 9.....		800.00
<hr/>		
Total amount collected and paid over to State Treasurer during fiscal year ending Oct.31,1885.	\$ 800.00	\$ 800.00

The above sum of \$800 was received upon the sale of ne qr sec. 34, township 90, range 41, 160 acres, part of the "Sioux City Purchase," and was remitted to the State Treasurer, as part of the Endowment Fund.

ENDOWMENT FUND.

1883.

To amount collected, month of November\$ 3,032.95

To amount collected, month of December..... 1,797.65

1884.

To amount collected, month of January 1,196.28

To amount collected, month of February..... 1,112.00

To amount collected, month of March..... 1,368.00

To amount collected, month of April..... 5,727.60

To amount collected, month of May... .. 1,904.00

To amount collected, month of June..... 7,962.51

To amount collected, month of July..... 8,106.21

To amount collected, month of August..... 3,247.60

To amount collected, month of September..... 5,895.81

To amount collected, month of October..... 6,071.92

1883.

By remitted November 30, voucher No. 85..... \$ 3,032.95

By remitted December 31, voucher No. 86..... 1,797.65

1884.

By remitted January 31, voucher No. 87..... 1,196.28

By remitted February 29, voucher No. 88..... 1,112.00

By remitted March 31, voucher No. 89..... 1,368.00

By remitted April 30, voucher No. 90..... 5,727.60

By remitted May 31, voucher No. 91..... 1,904.00

By remitted June 13, voucher No. 92..... 1,457.01

By remitted June 19, voucher No. 93..... 781.00

By remitted June 30, voucher No. 94..... 5,721.50

By remitted July 31, voucher No. 95..... 8,106.21

By remitted August 28, voucher No. 96..... 3,247.60

By remitted September 30, voucher No. 97..... 5,895.81

By remitted October 31, voucher No. 98..... 6,071.92

Total amount collected and paid to State Treas-

urer during fiscal year ending Oct. 31, 1884....\$47,422.53 \$47,422.53

1884.

To amount collected month of November	4,123.26
To amount collected month of December	4,461.00

1885.

To amount collected month of January	4,056.00
To amount collected month of February	2,160.00
To amount collected month of March	5,079.55
To amount collected month of April	3,610.00
To amount collected month of May	3,676.06
To amount collected month of June	7,632.00
To amount collected month of July	3,376.00
To amount collected month of August	7,104.90
To amount collected month of September	9,111.52
To amount collected month of October	6,589.36

1884.

By remitted November 10, voucher No. 99	360 00
By remitted November 20, voucher No. 100	957.53
By remitted November 29, voucher No. 101	2,805.73
By remitted December 31, voucher No. 102	4,461.00

1885.

By remitted January 31, voucher No. 103	4,056.00
By remitted February 28, voucher No. 104	2,160.00
By remitted March 31, voucher No. 105	5,079.55
By remitted April 30, voucher No. 106	3,610 00
By remitted May 31, voucher No. 107	3,676.06
By remitted June 30, voucher No. 108	7,632.00
By remitted July 31, voucher No. 109	3,376.00
By remitted August 31, voucher No. 110	7,104.90
By remitted September 30, voucher No. 111	9,111.52
By remitted October 31, voucher No. 112	6,589.36

Total amount collected and paid to State Treasurer during fiscal year ending October 31, 1885, \$61,012.65 \$ 61,012.65

RECAPITULATION.

Amount of interest fund collected during year ending October 31, 1884	\$ 36,560.38	
Amount of interest fund collected during year ending October 31, 1885	29,543.31	
Amount of contingent fund collected during year ending October 31, 1884	2,825.55	
Amount of contingent fund collected during year ending October 31, 1885	2,927.95	
Amount of interest on loans collected during year ending October 31, 1884	916.55	
Amount of interest on loans collected during year ending October 31, 1885	1,284.71	
Total income since last report		\$ 71,058.45
Amount of endowment fund collected during year ending October 31, 1884	47,422.53	
Amount of endowment fund collected during year ending October 31, 1885	61,012.65	
Amount of principal on loans collected since last report	1,400.00	
Amount of right of way damages collected since last report	553.00	
Amount of contingent fund principal collected since last report	800.00	
		\$111,189.18
Total collections since last report		\$185,246.63

Since the establishment of this agency, August, 1865, I have collected and remitted to Treasurer of College, on account of income up to October 31, 1883, as follows :

Interest fund.....	\$ 550,435.93	
Contingent interest fund.....	18,600.82	
Interest on loans.....	1,441.21	
	<hr/>	
	\$ 570,477.96	
Income collected and paid over since last report.....	74,053.45	
Total income collected and paid over since establishment of this agency.....		\$644,536.41
Amount of endowment fund collected up to October 31, 1883.....		114,516.02
Amount of endowment fund collected since October 31, 1883.....		108,435.18
Amount of contingent fund principal collected up to October 31, 1883.....		6,400.00
Amount of contingent fund principal collected since October 31, 1883.....		800.00
Amount of principal on loans collected up to October 31, 1883.....		3,600.00
Amount of principal on loans collected since October 31, 1883.....		1,400.00
Amount of right of way damages collected up to October 31, 1883		157.00
Amount of right of way damages collected since October 31, 1883 ..		553.00
	<hr/>	<hr/>
Total amount collected and paid over since establishment of this agency...		\$880,397.61

I have loaned of the contingent fund principal since date of last report \$6,250, at seven per cent, secured on improved farming land as follows:

Loan number 23, Valentine Engert.....	\$ 500.00
Loan number 24, Frederick and Albestine Shultz.....	450.00
Loan number 25, John P. Hilstrom.	1,000.00
Loan number 26, Joseph Novak.....	600.00
Loan number 27, Wm. Robe.....	700.00
Loan number 28, J. Franklin Gage.....	500.00
Loan number 29, Michael Schliski	1,000.00
Loan number 30, J. H. Foley.....	500.00
Loan number 31, Wm. Stanbra... ..	1,000.00

Amount loaned since last report.	\$ 6,250.00
Amount loaned prior to last report.....	19,150.00

Total amount loaned.....	\$ 25,400.00
Amount of principal on loans paid.....	5,000.00

Amount of loans outstanding.....	\$ 20,400.00
Number of acres of congressional grant forfeited since last report.....	360
Valuation of same when forfeited.....	\$ 1,440.00
Number of acres of Sioux City purchase forfeited since last report.....	320
Valuation of same when forfeited.....	1,600.00
Number of acres of congressional grant patented since last report.....	42,047.83
Valuation of same.....	108,551.68
Total income of the College payable at this office.....	\$ 33,094.23
Number of acres of Sioux City purchase patented since last report.....	160
Valuation of same.....	800.00

Total amount of interest bearing funds is as follows:

Value of lease of lands of the congressional grant now in force bearing interest at eight per cent.	\$357,733.43	
Annual interest on same.		\$ 23,618.67
Value of leases at ten per cent.	880.00	
Annual interest on same.		88.00
Value leases Sioux City purchase.	36,119.51	
Annual interest on same.		2,889.56
Amount loaned bearing seven per cent.	20,400.00	
Annual interest on same.		1,498.00

Total interest bearing funds in this department. \$415,132.94

Amount of endowment fund heretofore collected and
paid to State Treasurer. 223,867.70

Total. \$639,000.64

Number acres forfeited lands not released.	360.
Number acres under lease of congressional grant.	112,486.42
Total number acres patented.	91,146.22
Nw $\frac{1}{4}$ 30-97-28 not leased on account of conflict with swamp land entry.	149.67
S $\frac{1}{2}$ ne $\frac{1}{4}$ 29-95-30 decided to be swamp land.	80.

Total number of acres. 204,222.31

Number acres of Sioux City purchase forfeited and not released.	320.
Number acres held under lease.	10,853.17
Number acres patented.	3,200.

Total number of acres in Sioux City purchase. 14,373.18

The Twentieth General Assembly by an act approved March 27, 1884, Chapter 72, provided for the renewal of leases as they expire. Under this act leases have been renewed for a period of five or ten years, covering 40,982.79 acres, at a valuation of \$105,890.95, drawing interest at eight per cent per annum.

The value of leases falling due during the fiscal year beginning November 1, 1885, and ending October 31, 1886, and not paid up or renewed at the date of this report is \$41,322.66.

There have been leased since November 1, 1883, 320 acres of land, as stated in the exhibit hereto attached.

An act of the Nineteenth General Assembly approved March 25, 1882, Chapter 169, provides for the taxation of leasehold estates in Agricultural College lands. I am informed that leases coming within the provisions of this act have been taxed in the several counties.

Questions relating to the conflicting claims of lease holders and purchasers at tax sale under this act have been presented to me, and by me referred to the trustees with a full statement of facts, with a request that the opinion of the Attorney-General be obtained respecting the legal questions involved.

GEO. W. BASSETT,
Agent Iowa Agricultural College.

List of lands leased since date of last biennial report, as follows:

Number of l-3 se.	PART.	Section.	Township	Range.	Acres.	Price.	Value	NAME.	Date.	Term of years.	Rate.	First year's interest.	Fee.
2076	ne qr.....	30	86	14	160	\$ 4.00	\$ 640	J. W. Adams	April 30, 1884	10	7	\$51.20	\$14.00
2077	se qr.....	30	86	14	160	4 00	640	W. N. Adams	April 30, 1884	10	7	51 20	14.00

REPORT OF THE FINANCIAL AGENT.

CORNING, IOWA, Nov. 10, 1885.

To the Honorable Board of Trustees:

GENTLEMEN—I have received from the Treasurer of State of the endowment fund of your College the sum of one hundred and forty-six thousand seven hundred and seventy-eight dollars and thirty-four cents, up to date, and in the ten and a half months time since the blanks for loaning were received, have placed in mortgages on improved farms, in the various counties of Iowa, the sum of one hundred and thirty-six thousand eight hundred and twenty-five dollars (\$136,825.00). I have delivered to your secretary mortgages to the amount of one hundred and thirty-three thousand seven hundred and twenty-five dollars (\$133,725.00). I have, made up and signed in my office and drawing interest, but needing some finishing items, loans amounting to three thousand one hundred dollars (\$3,100.00), leaving a balance on hand of nine thousand nine hundred and fifty-three dollars and thirty-four cents (\$9,953.34). I also have on hand applications, now undergoing inspection as to their value and quality as loans, amounting to fourteen thousand two hundred dollars (\$14,200.00). These if found to be safe security will be completed and forwarded through the proper channel. On the sum of one hundred and four thousand four hundred and seventy-five dollars (\$104,475.00) of these mortgages the interest matures January 1st each year; beginning January 1, 1885, on twenty-eight thousand one hundred dollars (\$28,100.00), and on seventy-six thousand three hundred and seventy-five dollars (\$76,375.00) beginning January 1, 1886; on the sum of thirty thousand seven hundred and fifty dollars (\$30,750.00) it matures October 1 each year, beginning October 1, 1885; and on the loans now being made the interest will be paid October 1 of each year, the first interest being due October 1, 1886. These mortgages are placed as follows, in twenty-three counties of Iowa:

Adams county.....	\$ 30,450.00
Appanoose county ..	1,500.00
Calhoun county	1,100.00
Cherokee county.....	11,650.00
Clarke county	2,700.00
Cass county.....	5,000.00
Crawford county.....	4,100.00
Fremont county	9,800.00
Decatur county.....	5,600.00
Harrison county.....	2,100.00
Ida county.....	1,600.00
Kossuth county	700.00
Lyons county.....	2,200.00
Monona county	9,500.00
Montgomery county	8,800.00
Mills county.....	5,400.00
Palo Alto county	600.00
Taylor county	2,100.00
Plymouth county.	2,200.00
Poweshiek county	800.00
Shelby county	3,200.00
Sac county	21,675.00
Wayne county.....	4,050.00
Total	\$136,825.00

The number of loans are 110. The average amount of these mortgages are twelve hundred and forty-three dollars and eighty-six cents and a fraction. The number made for five years are 23; the number made for ten years are 87. I might add that I have endeavored to be careful in making this investment of your endowment fund, both as to title and security, deeming it the best to take no chances in either direction. The demand has been up with the supply of funds, and the former could be increased with the supply, especially in the winter and spring of the year. Should your board succeed in disposing of the school and municipal bonds now in your hands, the funds can be readily invested in mortgages. I hope, provided this is brought about and I am permitted to serve you, that within the year to come, including the sums now invested, added to proceeds of bonds when sold and the sums to come from leases, to have nearly, if not quite, one half of your endowment fund invested in these eight per cent securities.

Awaiting your command, I am, yours truly,

D. S. SIGLER, *Financial Agent.*

ABSTRACT OF THE PROCEEDINGS OF THE BOARD OF TRUSTEES, 1883-1884.

PRESENT MEMBERS OF THE BOARD.

<i>First District</i> —HON. S. R. WILLARD, Fort Madison.....	1886
<i>Second District</i> —HON. W. T. RIGBY, Stanwood.....	1886
<i>Third District</i> —HON. R. P. SPEER, Cedar Falls.....	1890
<i>Fourth District</i> —HON. H. G. GRATTAN, Waukon.....	1886
<i>Fifth District</i> —HON. JOSEPH DYSART, Dysart.....	1888
<i>Sixth District</i> —HON. JOHN MORRISON, Sigourney	1890
<i>Seventh District</i> —HON. J. S. CLARKSON, Des Moines	1888
<i>Eighth District</i> —HON. C. S. STRYKER, Creston	1886
<i>Ninth District</i> —HON. PLATT WICKS, Harlan.....	1890
<i>Tenth District</i> —HON. D. W. MOTT, Hampton	1888
<i>Eleventh District</i> —HON. A. D. PECK, Sac City.....	1888

OFFICERS OF THE BOARD.

HON. D. W. MOTT, Hampton.....	CHAIRMAN
E. W. STANTON, Ames.....	<i>Secretary</i>
W. M. GREELEY, Ames (during 1884)....	<i>Treasurer</i>
GEN. J. L. GEDDES, Ames (during 1885).....	<i>Treasurer</i>

STANDING COMMITTEES.

Executive and Finance Committee—Trustees Wicks, Dysart, Peck, Morrison and Clarkson.

Committee on Faculty and Courses of Study—Trustees Clarkson, Rigby, Morrison, Willard, Peck and Dysart.

Committee on Farm and Farm Buildings—Trustees Grattan, Willard and Dysart.

Committee on Horticulture—Trustees Speer, Grattan and Stryker.

Committee on Workshop—Trustees Stryker, Grattan and Rigby.

Committee on College Lands—Trustees Dysart, Peck and Morrison.

Building Committee—Trustees Willard, Rigby and Grattan.

Committee on Investments—Trustees Rigby, Wicks and Mott.

Committee on Library—Trustees Clarkson, Speer and Stryker.

Committee on Rules—Trustees Morrison, Stryker and Speer.

Committee on Scientific Departments—Trustees Rigby, Peck and Dysart.

STANDING RULES.

1. The President shall take the chair at the hour to which the Board is adjourned, and call the members to order; and if a quorum be present, he shall direct the journals of the preceding day to be read, and mistakes, if any, corrected. He shall preserve order and decorum, and decide all questions of order, subject to an appeal to the Board. He shall appoint all committees, unless otherwise especially ordered.

2. When the vote is taken *viva voce*, questions shall be distinctly put. If the President doubt, or a division be called for, the Board shall divide—those in the affirmative of the question shall first rise from their seats, and afterwards those in the negative. It shall require two members to order a call of the ayes and noes.

3. All motions, except to adjourn, postpone or commit, shall be reduced to writing if required by any member of the Board. Any motion may be withdrawn by the mover before it is amended by the Board.

4. In filing blanks the longest time and the largest sum shall be first put.

5. When a motion or question has been decided in the affirmative or negative, any member having voted with the majority may move a reconsideration of the same on the next business day.

6. Before acting on executive business the room shall be cleared by direction of the President, of all persons except members and the Secretary. In such sessions the members shall be enjoined to observe secrecy.

7. No standing rule or order of the Board shall be rescinded or suspended unless by a majority of all the Board, except an order fixing the hour to which the Board shall stand adjourned.

8. The rules of parliamentary practice contained in Cushing's Manual shall govern the Board in all cases in which they are applicable, and in which they are not inconsistent with the standing rules.

9. When any order of the day is not proceeded with on the day assigned, it shall stand as a general order on each succeeding day until disposed of, unless otherwise ordered, but its consideration can not be moved until that order of business is reached, when it shall be taken up in the order of its file.

10. When the pending question is interrupted by a "special order"

it shall, upon the disposal of the special order, be before the Board in the same stage, as if it had not been so interrupted.

11. No member shall be allowed to speak on one subject longer than ten minutes without consent of the Board.

ORDER OF BUSINESS.

1. Reading of the minutes.
- . Petitions and communications.
3. Reports of committees in their order as established by list of standing committees.
4. Reports of select committees.
5. General orders of the day.
6. Unfinished business.
7. Unclassified business.

MEETINGS.

At the time of the last biennial report the Board of Trustees consisted of five members, viz.: Messrs. Wright, Kirkwood, Grattan, Stryker and Willard, the terms of office of Messrs. Kirkwood and Wright expiring April 30, 1884. Only one meeting of this Board—January, 1884—is included in this report. By an act of the Twentieth General Assembly, the membership of the Board was increased to eleven, or one from each congressional district. The terms of office of the eight new members elected under this law commenced May 1, 1884. On May 7th this new Board organized by electing Trustee Mott chairman for two years. During the biennial period the following meetings have been held:

1884-5.

First meeting	May 7-8
Second meeting	June 17-18
Third meeting	August 21-22
Fourth meeting.	November 10-12
Fifth meeting	December 2-6
Sixth meeting.....	January 13-14

1885-6.

First meeting	May 19-20
Second meeting.....	June 12
Third meeting	November 9-13

APPROPRIATIONS OF THE GENERAL ASSEMBLY.

The appropriations of the Twentieth General Assembly to the Agricultural College were as follows:

For building to be occupied by the Engineering Department, with proper fixtures	\$ 7,500
For two buildings to be occupied by the Veterinary School, with proper fixtures.....	10,000
For house and barn on north farm.....	1,500
For pump-house and water-supply	800
For building to contain fire-proof vault and offices of Treasurer, Secretary and President.....	3,000
For purchase of house occupied by Professor Budd, and addition to same	2,800
For one house to be used as a Professor's residence, with proper out-buildings	3,000
For gasometer and repair of gas works, or electric light	3,500
Total.....	\$ 32,100

At the meeting in May, 1884, the Board decided, upon the recommendation of the building committee, to employ a first-class architect to draw plans and specifications of the buildings contemplated by the legislative appropriation, and to supervise the erection of the same. Mr. Foster, of the firm of Foster & Liebbe, Des Moines, was employed as such architect, receiving as his compensation four per cent of the contract price of the buildings placed under his charge. In addition to making the necessary plans and specifications, his contract provided that he should superintend the work, visiting the College for that purpose twice each month, or oftener if called by the proper authorities.

Upon the basis of the detail plans furnished by Mr. Foster, the Secretary was authorized to advertise for sealed proposals for the erection of the buildings included in the first five items of the appropriation, together with the addition to Professor Budd's house. The bids were opened at the June meeting of the Board, and were as follows:

P. E. Bain.....	\$24,692
V. Tomlinson.....	22,970
F. S. Whiting	25,175
Zerbe Bros.....	24,621
S. J. Collins.....	24,277
Eno Baker	34,945

The bid of Mr. Tomlinson being the lowest, the Board decided to accept it, provided he would so modify it as to bring it within the limit fixed by the Board, viz.: \$22,380. Mr. Tomlinson acceding to this proposition, his bid was accepted. The following is the modified bid:

Engineering Hall.....	\$ 6,410
Veterinary buildings.....	9,950
House and barn on north farm.....	1,500
Pump-house.....	750
Office building.....	2,990
Addition to Professor Budd's house.....	780
Total.....	<hr/> \$ 22,380

The building committee were authorized to enter into contract with Mr. Tomlinson upon the basis of this bid, and the contract drawn by them, carefully guarding the interest of the College, was signed on behalf of the Board by the chairman of that committee.

The contract provided that Mr. Tomlinson should be paid upon monthly estimates signed by the architect, and that fifteen per cent. of said estimates should be reserved until the completion and acceptance of the buildings. Mr. Tomlinson gave a bond in the sum of \$5,000 for the faithful performance of his contract, which bond was approved by the Board. The chairman and the secretary of the Board were authorized to make requisition upon the Auditor of State for the amount of the monthly estimates. It was ordered by the Board that in lieu of a prompt payment of monthly estimates to the contractor, he should be paid any interest received by the College on the State warrants issued therefor. Under this order Mr. Tomlinson has been paid the sum of \$31.93.

The buildings included in Mr. Tomlinson's contract have been completed and accepted. The full contract price was paid in all cases except the Engineering Hall. As work upon this building progressed, it became evident to the Board that if the original plans were fully carried out there would not be a sufficient balance remaining to purchase the necessary inside fixtures for the shop. An agreement was therefore entered into with Mr. Tomlinson, whereby he was released from building the addition to the north wing and a small room in the west extension, and his contract price, by the reason thereof, was reduced in the sum of \$1,050. Other minor changes were afterward made by which a still further reduction of \$63.28 was

effected. The greater portion of the sum thus saved was appropriated by the Board to the purchase of inside fixtures, and was expended under the direction of Professor Bassett.

To make room for the new Engineering Hall it was found necessary to move the old frame work-shop. Fremont Turner was appointed by the Board to superintend its removal, and a portion of the expense—\$305.71—was charged to the Engineering Hall appropriation.

Preparatory to the erection of the Veterinary Hospital, Professor Stalker was appointed a committee to visit Boston and New York for the purpose of investigating the hospitals in those cities, and determining upon the best plan for the building to be erected upon the College farm. The general outline of the plan submitted by him was adopted by the architect. His bill of expenses, amounting to \$73.31, was allowed by the Board and charged to the Veterinary building appropriation. No arrangement having been made in the contract with Mr. Tomlinson for a sewerage system or water supply for the Veterinary Hospital, the Board appropriated \$150 for the purpose of supplying that building with a well, pump, sewer, and necessary piping. This sum was expended under the direction of Trustees Willard and Rigby. It being deemed by the building committee that the foundation of the sanitary building, as originally determined, was too low, the Board ordered it increased one foot in height. For the extra work connected therewith, the contractor was allowed the sum of \$23.00.

Trustee Willard and the executive committee of the Faculty were appointed a committee to select the site for the house and barn on the north farm. The cellar of the house being deemed too small, it was enlarged by Mr. Tomlinson at a cost of \$15.00. His bill for the same was allowed by the Board.

The chairman and the secretary of the Board were instructed at the meeting in June, 1884, to complete the purchase of Professor Budd's house, in accordance with the act of the General Assembly making an appropriation for such purchase. A bill of sale was signed by Professor Budd, transferring to the State all right and title to said house, in consideration of the sum of \$2,000 paid him by the College treasurer upon the order of the committee. The balance of the State appropriation was expended, as shown by the contract with Mr. Tomlinson, in the erection of an addition to said house.

At the meeting of the Board in May, 1884, Professor T. E. Pope,

having resigned the Professorship of Chemistry, submitted a proposition to sell to the College his house and lot for the sum of \$2,700. He stated to the Board that the lot contained one acre; that the house was built in 1877, was in good repair, and that it cost originally \$3,400. His proposition was referred to the Building Committee, who reported that they had examined the property, considered it worth the money, asked and advised its purchase provided there were no legal objections to such use of the State appropriation. Upon this last point the Secretary of the Board was directed to obtain the opinion of the Attorney-General. This opinion being favorable, the Board, at its June meeting, accepted the proposition of Professor Pope, and authorized the secretary to take the steps necessary to complete the purchase. The deed transferring the title in said property to the State of Iowa for the use and benefit of the Agricultural College, was delivered to the Board in the following November, but the purchase price was not paid until early in January, 1885; a question arising about the taxes for 1884, they were paid by Professor Pope. His claim for reimbursement for such payment was refused by the Board. The house having been set aside for occupancy by Professor Wynn, the sum of \$25 was appropriated to its repair.

The Legislature, in making an appropriation for lighting the College building, left it optional with the Board to repair the present gas works or introduce electric light. The Executive and Finance Committee, to whom the matter was referred, reported, in June, 1884, in favor of the electric light, recommending the purchase of a dynamo, wires and lights, and the use of the engine belonging to the mechanical department for running the dynamo. This report was referred to a special committee consisting of Trustees Mott, Clarkson and Willard. At the August meeting this committee submitted to the Board the proposition of the Western Edison Light Company to establish at the College a plant sufficient to furnish 200 lights for the sum of \$3,650. This amount being in excess of the State appropriation the offer was rejected, and Trustees Clarkson and Willard were empowered to consummate a bargain with the company for lighting the College building provided the sum paid therefor should not exceed the amount of the State appropriation. This committee negotiated with the company a contract, which was approved by the Board, and of which the following is a summary:

The company agrees to equip the College and office building with 250 ten candle Edison incandescent lamps placed in suitable fixtures; connect the same with a two hundred ten-candle light dynamo placed in the College work-shop, and properly connect the same with the work-shop engine, for the sum of \$3,050. The lamps are guaranteed to have an average life of six hundred hours.

The executive committee of the Faculty and Captain Lincoln were appointed a committee to superintend, on behalf of the Board, the introduction of the plant. The contract having been completed and the light proving satisfactory, the Board, at its meeting in December, 1884, accepted the plant, and directed the payment to the company of the contract price.

The balance of the State appropriation, \$450, was expended in repairing the College engine and fitting up the addition to the work-shop for the use of the electric light department.

The following statement shows in a condensed form the expenditures under the appropriation of the Twentieth General Assembly:

ENGINEERING HALL.

Paid Tomlinson on contract.....	\$ 5,296.72
Architect.....	256.40
Superintendence—building committee.....	36.00
Advertising and express.	11.75
Fixtures.....	1,084.36
Moving old work-shop.....	305.71
	————— \$ 6,990.94

VETERINARY BUILDINGS.

Tomlinson's contract.....	\$ 9,950.00
Architect.....	398.00
Advertising and express.....	6.45
Well and sewer.....	150.00
Raising foundation of sanitary building	23.00
M. Stalker—expenses investigating veterinary hospitals New York and Boston.....	73.31
	————— \$ 10,600.76

HOUSE AND BARN ON NORTH FARM.

Tomlinson's contract.....	\$ 1,500.00
Architect.....	60.00
Paid Tomlinson for extra work on cellar.....	15.00
	————— \$ 1,575.00

PUMP HOUSE.

Tomlinson's contract.....	\$ 750.00	
Architect.....	30.00	
		<hr/> \$ 780.00

OFFICE BUILDING.

Tomlinson's contract.....	\$ 2,990.00	
Architect.....	119.60	
Advertising.....	6.00	
Paid Wm. Benning for strips.....	1.50	
		<hr/> \$ 3,117.10

PROF. BUDD'S HOUSE AND ADDITION.

Purchase price of house.....	\$ 2,000.00	
Tomlinson's contract for addition.....	780.00	
Architect.....	31.20	
		<hr/> \$ 2,811.20

PROFESSORS' HOUSE AND FIXTURES.

Purchase price of Prof. Pope's house and fixtures....	\$ 2,700.00	
Repairs on same.....	25.00	
		<hr/> \$ 2,725.00

ELECTRIC LIGHT.

Western Edison Light Company's contract.....	\$ 3,050.00	
Moving and fitting up shop and repairing engine.....	450.00	
		<hr/> 3,500.00
Total.....		<hr/> \$ 32,100.00

In the act of the General Assembly making the appropriation to the College it was provided that any sum remaining after the specific object for which it was appropriated, was completed, might be used so far as necessary for any of the other items, subject however to the approval of the Executive Council. The Board found it necessary in order to complete the work to the best advantage to make the following transfers:

From—

Engineering hall.....	\$ 509.06
Pump house.....	20 00
Professor's house.....	275 00
	<hr/>
	\$ 804.06

To—

Veterinary buildings	\$ 600.76
House and barn on north farm.....	75.00
Prof. Budd's house and addition.....	11.20
Office building.....	117.10
	<hr/>
	\$ 804.06

These transfers were approved by the Executive Council.

At the date of the last biennial report there remained in the hands of the State and College Treasurers to the credit of the appropriations made to the College by the Nineteenth General Assembly the following:

Engineering hall.....	\$ 1,148.00
Professors' houses.....	132.09
	<hr/>
	\$ 1,280.09

These amounts were expended under the orders of the Board for the following purposes:

ENGINEERING HALL.

Balance due contractor Tomlinson.....	\$ 1,065.00
Paid Tomlinson for papering tower and extra work on plastering.....	15.00
Paid S. H. Tracey for two squares asbestos roofing....	8.00
Paid for slating, and putting in same.....	27.00
Transferred to veterinary hospital and paid Fremont Turner balance due on contract.....	33.00
	<hr/>
	\$ 1,148.00

PROFESSORS' HOUSES.

Paid for porch and repairs on Halsted house.....	\$ 95.09
Paid for extra window, piping and repairing cistern— Osborn house.....	37.00
	<hr/>
	\$ 132.09
	<hr/>
	\$ 1,280.09

The annual appropriations to the College are: \$1,500 for farm and horticultural experimentation, and \$1,000 for the management of the land department and the repair of buildings.

The experimental fund was divided, both in 1884 and 1885, equally between the agricultural and horticultural departments. The pur-

poses for which the fund is used are set forth in the reports of Professors Knapp and Budd.

Of the land and repair fund of 1883 there remained on hand at the beginning of the biennial period a balance of \$300.98.

This amount, under the authority of the Board, was expended as follows:

For expenses connected with the management of lands.....	\$ 67.17
For repairing chemical recitation room	190.68
For repairing north hall.....	15.00
For repairing farm buildings.....	28.13
	<hr/>
	\$ 300.98

The appropriations for 1884 and 1885 have been drawn, and under orders of the Board expenditures have been made for the following purposes:

Repairing chemical laboratory.....	\$ 568.89
Repairing south hall.....	376.50
Repairing and moving frame work-shop.....	367.09
Repairing college building.....	115.40
Repairing farm buildings.....	144.04
Repairing horticultural buildings.....	77.08
Repairing engineering hall	13.70
Repairing office building.....	24.80
Repairing veterinary buildings.....	12.39
Repairing houses occupied by Prof. Thomson.....	24.07
Repairing house occupied by Prof. Halsted.....	18.25
Expenses connected with management of lands.....	74.60
Expenses connected with loan department.....	125.72
	<hr/>
	\$ 1,942.53

The unexpended balance is \$57.47. Bills considerably in excess of this balance are awaiting payment.

The new veterinary hospital having been completed, the small barn north of the college, (built with the State appropriation of 1882 and hitherto used for hospital purposes) was transferred to the steward's department in consideration of the payment by that department to the College treasurer of the sum of \$300.00. This amount was expended by Professor Stalker, under the authority of the board, in providing fixtures for the new veterinary hospital.

The Board decided to ask of the Twenty-first General Assembly the following appropriations:

For ladies' hall and furnishing same.....	\$ 66,000.00
For repairing laboratory and furnishing gas.....	3,000.00
For extending the electric light system.....	5,000.00
For hog pens and corn crib.....	2,000.00
	<hr/>
	\$ 76,000.00

And that the annual appropriation for the management of the land department and the repair of college buildings be increased to \$2,500.00.

COLLEGE ENDOWMENT FUND.

The college endowment fund as reported in the last biennial report, page 159, amounted to \$641,006.16. Since then it has been increased by the re-appraisement of forfeited land in the sum of \$160, and by the transfer, in May, 1884, of accumulated interest to the amount of \$400, making the present endowment \$641,566.16. This endowment came from two sources, viz.:

From the Congressional grant.....	\$ 582,646.65
From the transfer and investment of interest fund.....	58,919.51
	<hr/>
	\$ 641,566.16

It is invested in lands, farm mortgages and bonds. The management of the lands and the investment of accumulated interest are included in the land department under the control of Agent G. W. Bassett, of Fort Dodge; the investment of the endowment fund in farm mortgages and the collection of the principal and interest on these loans constitutes the loan department under the charge of Agent D. S. Sigler, of Corning, Iowa; the investments in bonds are managed directly by the Board of Trustees. The fund, at the close of the biennial period, was divided between these three departments as follows:

Land department.....	\$ 418,498.46
Loan department.....	153,367.70
Bond department.....	69,700.00
	<hr/>
	\$ 641,566.16

A detailed statement of the present condition of the fund is given on page 71.

LAND DEPARTMENT.

The report of Agent Bassett to the Board of Trustees on the transactions of this department will be found on page 100.

Annual settlements have been made by the Board with the agent. The report on these settlements will be found on page 95.

An act having been passed by the Twentieth General Assembly permitting the renewal of leases, the agent was authorized by the Board to grant such renewals for terms of five or ten years. A general order was passed by the Board allowing all lessees to pay up the principal of their leases and receive a patent for the land described therein by paying in addition to the purchase price two per cent per annum, on the same, for the unexpired term of the lease.

At the meeting of the Board in May, 1884, Agent Bassett reported that the suit respecting the title of the n $\frac{1}{2}$ of ne $\frac{1}{4}$ 29, 95, 30, had been decided in favor of the American Emigrant Company, holding title under the swamp land grant. Upon this tract the lessee, Mr. J. N. Banwood, had paid interest to the amount of \$151.20. This amount the Board ordered refunded to Mr. Banwood. The sum of \$124.99 was applied in payment of delinquent interest on the south half of the same quarter section, and the balance, \$24.19, was paid to the lessee.

Upon a statement of the facts relating to the forfeiture of the lease on the sw $\frac{1}{4}$ 14, 93, 30, Agent Bassett was authorized by the Board in August, 1884, to lease said tract to Mrs. Dixon, the widow of the former lessee, upon the same valuation that the tract bore previous to forfeiture.

Several questions having arisen respecting the proper interpretation of the law taxing renewed leases the Board directed that they should be submitted to the Attorney-General. The following is his opinion:

OFFICE OF THE ATTORNEY-GENERAL, }
DES MOINES, IOWA, June 22, 1885. }

E. W. STANTON, *Iowa Agricultural College, Ames, Iowa:*

DEAR SIR—Your favor of 19th with enclosures is at hand.

I doubt very much whether you want answers to the questions just in the form propounded by Mr. Geo. W. Bassett in the enclosed letter. He asks:

"1st. Has the holder of a tax sale certificate before treasurer's deed has been made a right to pay out the principal on a lease falling due *to the exclusion of the lessee*, and having obtained a patent in his own name thereby per-

fect his own title to the land and cut off the lessee from the right of redemption and from any interest in the land?"

Answering the question as it is asked I would say no.

I infer, however, from this question that what you want is a construction of section 3, chapter 169, laws of the 19th General Assembly. Under this section, however, I do not think the holder of a tax sale certificate, not yet matured, or on which the time for redemption has not expired, can at the expiration of the lease pay out the purchase price of the land *to the exclusion* of the lessee. If both parties are asking to pay out and get a deed the lessee is the one entitled to do so, and the holder of the tax certificate is then secure. If the owner does not then redeem within the time limited by law, and after notice has been given as required by law, the holder of the tax sale certificate may perfect his title, both as against the former lessee and the State by procuring a treasurer's deed. Against the former lessee because of his laches, and against the State because the lessee having paid out the purchase price the State has no further interest in the land.

But if the lessee allows his lease to expire and neglects to purchase, then the holder of the tax certificate need not await the statutory period for redemption from tax sales—he may pay out the purchase price and take his deed, as provided in said section.

The second inquiry is:

"2d. After tax sale and before tax deed has been made (the lease expiring), can the lessee, by paying the required amount, be entitled to renewal of the lease for an indefinite term?"

If the trustees consent thereto he may. He cannot demand it as a right, but he may be allowed to do so. See section 3, chapter 72, acts 20th G. A.

The particular question, however, is: What effect will such renewal have on the rights of the holder of the tax sale certificate to thereafter pay out the purchase money due under the former lease and have his deed as provided in section 3, chapter 169, laws 19th G. A.?

The evident object of this provision is to secure the purchaser at tax sale against loss, and at the same time protect the interest of the State in the lands.

The renewal of the lease to the former lessee does not affect the substantial rights of the holder of the tax sale certificate. He has only to await the expiration of the statutory period for redemption, and he may then get his deed from the treasurer, conveying the lessee's interest in the unexpired term and be subrogated for him in the lease; or electing so to do he may pay out the unpaid purchase money and get from the State the fee simple title.

Giving the law that liberal construction which courts always accord to this law for the sale of land for taxes, I am of opinion that where the lessee has renewed his lease, before tender and demand on part of the holder of redeemable tax sale certificates for a deed from the State, said holder has no right to make such tender and demand. He must await the lessee's period for redemption and then perfect his title in the manner provided in the first clause of section 3, chapter 169, acts of 19th G. A.

"3d. Has the holder of the tax sale certificate, before tax deed is issued, a right to pay delinquent interest before the sixty days grace provided in the statute has expired?"

I answer yes. By the provisions of section 2, chapter 72, acts of 20th G. A., there is an absolute statutory forfeiture of the lease if such interest is not paid in sixty days after due, and within sixty days after notice. There is no saving clause in favor of the holder of tax sale certificates, and they have the right to pay the same and so save the forfeiture. The lessee in redeeming must refund this with interest, as provided by section 2, chapter 169, acts 19th G. A. The interest is not increased on the lease by reason of having been so paid by the certificate holder, and no harm is done him; possibly a great benefit.

With much respect I am yours truly,

A. J. BAKER, *Attorney-General.*

The following tracts of college land have been forfeited during the biennial period:

Contingent fund land forfeited March 4, 1884.

PART OF SECTION.	Section.	Township.	Range.	Acres.	Old price.
sw qr.....	26	93	36	160	\$ 5.00
ne qr.....	36	93	36	160	5.00

Endowment fund land forfeited March 7, 1884.

PART OF SECTION.	Section.	Township.	Range.	Acres.	Old price.
se qr.....	28	99	48	160	\$ 3.50

Endowment fund land forfeited May 7, 1885.

PART OF SECTION.	Section.	Township.	Range.	Acres.	Old price.
ne qr of se qr and s hf of se qr.....	21	99	48	120	\$ 4.00
e hf of se qr.....	31	94	37	80	5.00

Trustee Peck was appointed a committee to re-appraise all forfeited lands.

Agent Bassett was directed to invest in farm mortgages the money received from the sale of land purchased in 1868, with accumulated interest. The sum of \$800 was paid in on this account during the biennial period, and is now in the hands of the College treasurer.

The present contract with Agent Bassett expiring December 31, 1885, the Board extended the same for six months. Mr. Dysart, chairman of the land committee, the President of the College, and the Secretary of the Board were appointed a committee to make, at the proper time, a final settlement with the Agent, of all matters relating to the present contract, and to see that a proper bond, of the same amount as the present one, is executed and approved to cover the term of the extended agency. The same committee was given full power to arrange for the future investment of the contingent principal fund.

Mr. Dysart and the President of the College were directed by the Board to ascertain, prior to the expiration of the extended term of Mr. Bassett's agency, if the business of the department cannot thereafter be conducted at the College.

LOAN DEPARTMENT.

A law providing for the investment of the College endowment fund was enacted by the Twentieth General Assembly. This law is given in full in the appendix to this biennial report. The Board of Trustees are therein authorized to loan the endowment fund upon approved real estate security. For the purpose of carrying this provision into effect, power is given them to appoint a financial agent who shall receive applications and negotiate loans in accordance with the conditions imposed by the law. At the meeting of the Board in

June, 1884, D. S. Sigler, of Corning, Iowa, was elected as such agent. Upon the recommendation of the investment committee, his bond was fixed at \$50,000. The rate of interest on loans was established at eight per cent. Trustee Rigby and Secretary Stanton were appointed a committee to execute a contract with the agent and do all the things necessary to be done by the Board, in order to fully establish the agency.

This committee reported at the August meeting that they were unable to agree with the agent upon the terms of a contract, the principal point of difference relating to the method of drawing the money from the State treasury. Two drafts of a contract were submitted with the report: one embodying the views of the committee, the other drawn by the Attorney-General upon memoranda submitted by the committee and the agent. After amending it in some minor particulars, the Board adopted the contract drawn by the Attorney-General and directed Trustee Rigby to sign it on behalf of the College. The salary of the agent was fixed at \$2,000 per annum.

The following is the contract in full:

CONTRACT WITH AGENT SIGLER.

This contract by and between the Iowa State Agricultural College and Farm, and D. S. Sigler, witnesseth:

The said Sigler having been appointed financial agent of said College and Farm by the trustees thereof by virtue of chapter 193, laws Twentieth General Assembly, State of Iowa, he, the said Sigler, agrees to conduct said agency according to the terms of said statute and this agreement.

1. All loans negotiated shall be on the following terms: The rate of interest shall be eight (8) per cent per annum, payable annually, principal and interest, payable to the order of said Board of Trustees at the office of the State Treasurer at Des Moines, Iowa; the principal to be due in not less than five nor more than ten years, provided the borrower can, by giving thirty (30) or more days notice in writing to the said financial agent of his intention to declare said note and mortgage due then, the same shall be due and payable at any time an interest payment is due, provided further, that he, at the end of said thirty (30) days pay said principal and all interest to that date in full, and the further sum of one (1) per cent per annum on the principal for the unexpired time of said loan.

2. The said financial agent shall only use such forms of notes, bonds and mortgages, coupons and other papers, and observe such instructions as may be prepared by the Attorney-General under the directions of the executive council for the purposes of and pursuant to the fourth paragraph of section 2 of said statute aforesaid.

3. He, the said agent, shall not loan less than \$500 nor more than \$5,000 to any one person.

4. He, the said agent, shall draw from the State Treasury the said endowment fund from time to time, as provided by section 7 of said statute, to enable him to make said loans, provided that he, at no one time, shall have in his possession, nor under his control, more than \$25,000. He shall exercise care and diligence in making said loans, and for any and all willful or negligent act of his in making said loans or selecting or retaining any one to assist him in preparing abstracts of title or the doing of any act in any way connected with said loans whereby any sum of money is lost or expense incurred the said Sigler shall be fully liable to said trustees.

5. And the said agent shall also be liable for any want of diligence in making said loans, and for all monies lying and being in his hands for an unreasonable time, or for any time where, by diligence or proper effort the same might or could have been loaned the said agent shall be liable for interest thereon at the rate of eight (8) per cent per annum.

6. He shall report to the secretary of said College and Farm semi-annually, and as much oftener as he may be required by said Board, his doings since his last report. He shall keep a complete abstract of each of said loans, and full and complete record and register of all his doings, and shall keep all letters received and press copies of all letters sent, all of which said records and correspondence shall be turned over to his successor in office, and at all times shall be open to the inspection of any member of the Executive Council, the Attorney General, or any member of the Board of Trustees of said College and Farm. The agent shall forward to the Secretary of the Board of Trustees all papers relating to such loans.

7. Once each year just prior to the time the penalty attaches for non-payment of taxes on real estate he shall examine and ascertain whether all taxes are paid on the real estate covered by mortgage to secure any of said loans. If the taxes are not paid he shall pay the same and the receipt therefor shall be his voucher for said amount of money.

8. He shall receive a salary of \$2,000 per annum, said salary to begin on the day on which this contract shall be executed, and he shall also receive all necessary expenses while away from his office in the discharge of his official duties. All other expenses, including advertising, abstracts, commissions, etc., shall be borne by said agent.

9. Each loan shall be secured by a mortgage paramount to all other liens upon improved farm lands in the State of Iowa, and shall not exceed forty per cent of the cash value of the mortgaged premises, exclusive of buildings.

10. Both principal and interest of said loans, as the same fall due, shall be promptly collected by said agent, and remitted without costs to the State Treasurer.

11. And the said Sigler shall at all times be subject to the orders and directions of said Board of Trustees.

12. The said Sigler shall hold his office as financial agent during the pleasure of said Board of Trustees.

In witness whereof this contract is executed in duplicate by the Iowa

State Agricultural College and Farm by W. T. Rigby, he having been directed by its Board of Trustees to so act and execute this contract, and by the said D. S. Sigler in his own proper person this 21st day of August, A. D. 1884.

THE IOWA AGRICULTURAL COLLEGE AND FARM.

BY W. T. RIGBY,

D. S. SIGLER.

It was ordered by the Board that the endowment fund be drawn from the State treasury, for the purpose of investment, on the order of the financial agent, countersigned by the secretary of the Board. The secretary was directed, upon the receipt from the financial agent of the papers relating to any loan, to enter an abstract of such loan in a book properly ruled for the purpose, and to afterward forward all papers relating to such loan, to the Treasurer of State, to be there deposited as contemplated by law. The secretary was also directed to keep with each loan such an account as would show at all times its actual condition.

The action of the Board in regard to the financial agency was reported to the Executive Council by Trustee Rigby. The Council not having taken action in the matter, the Board at its November meeting appointed Trustee Wicks a committee to confer further with said Council in regard to the establishment of the agency.

At the December meeting, Trustee Wicks submitted the following report:

AMES, December 5, 1885.

To the Honorable Board of Trustees:

Your committee to consult with the State Executive Council on matters relating to the financial agency of the College, beg leave to report to the Board the action of said Council, embraced in the following letter of instruction of the Council to Agent Sigler:

HON. D. S. SIGLER, *Financial Agent, Agricultural College and Farm:*

DEAR SIR—For the purpose of carrying into effect the provisions of Chapter 193, Acts of the Twentieth General Assembly, the Executive Council have approved blanks submitted by the Attorney-General, which you are instructed to use in the transaction of your business as Financial Agent of the Agricultural College and Farm; a copy of each blank has been furnished you.

The Executive Council and the Attorney-General hereby direct that you draw not to exceed twenty-five thousand (25,000) dollars at any one time, and that you shall not have in your hands, at any one time, to exceed twenty-five thousand (25,000) dollars. You are authorized to have that amount if you deem it advisable.

The State will not be at any expense for abstracts. The borrower must perfect his title and furnish abstract. You are instructed to record all mortgages.

You are further instructed to give the State Treasurer such receipts as will correspond with amounts drawn, and in such form as he may demand.
By order of the Executive Council.

J. A. T. HULL,
Secretary of State, and ex officio Secretary of Executive Council.

All of which is respectfully submitted.

PLATT WICKS.

The financial transactions of the agency from the time of its establishment to the close of the biennial period were reported by Agent Sigler to the Board of Trustees. The report will be found on page 112. A list of the loans as recorded by the secretary in his register and by him reported to the Executive Council will be found on page 77.

At the annual meeting in November the Board appointed Trustees Mott and Wicks a committee to make such examination of the lands upon which money has been loaned by Agent Sigler as will enable them to judge of the security of the loans.

ENDOWMENT FUND BONDS.

Agent Sigler reported to the Board, at its meeting in January, 1885, that he could promptly invest in farm mortgages that portion of the endowment fund held in five and six per cent bonds, provided the same could be sold without too much delay. The Board thereupon appointed Agent Sigler and Trustee Wicks a committee to dispose of said bonds if they could be sold at not less than par and accrued interest. The committee was directed not to deliver any bonds until the cash for the same had been paid into the hands of the State Treasurer.

At the May meeting the committee reported that through the aid of the Executive Council they had been able to dispose of the following bonds :

Independent school district, East Des Moines, bearing 5 per cent.	\$ 8,500.00
Independent school district, East Des Moines, bearing 6 per cent	7,000.00
Independent school district, Newton, bearing 6 per cent.....	7,000.00
Independent school district, Sioux City, bearing 6 per cent.....	10,000.00
Davenport city bonds, bearing 6 per cent.....	10,000.00
Muscataine city bonds, bearing 6 per cent.....	6,000.00
Total.....	\$ 48,500.00

These bonds were sold to Vennor & Co., of Boston, Mass. There being a slight informality in the East Des Moines five per cent bonds,

which the committee were unable to correct to the satisfaction of Vennor & Co., these bonds were afterwards re-purchased on the College account.

The remainder of the bonds could not be sold because they were made payable "to order," and thus title could not be transferred by delivery. The committee recommended that an effort be made to induce the corporations originally issuing the bonds to fund the indebtedness, take up the old bonds and issue new ones in such shape as to make them readily saleable on the market.

The committee was continued by the board and given full power to dispose of the remaining bonds as they should deem for the best interest of the College.

At the June meeting, the Board was informed that the Executive Council had a short time previous passed the following resolution :

"*Resolved*, That no further sale of the Agricultural College endowment fund will be permitted except as the same shall be paid off by the obligors thereof."

The Board of Trustees, through a committee appointed for that purpose, presented to the Executive Council their views in regard to the sale of the bonds, urging that such sale be permitted. A petition to the same effect, signed by all the members of the Board, was afterwards presented to the Council. Permission not being granted, the Board at its November meeting instructed Trustee Wicks to still further urge such action upon the Executive Council.

APPROPRIATIONS TO COLLEGE DEPARTMENTS.

The expenses of the different departments are met by appropriations made by the Board from the College interest fund. Expenditures in excess of these appropriations are prohibited by law. In no case has this law been violated during the biennial period. The expenditures under these appropriations of the Board for 1884 and 1885 are reported in exhibits "B" and "C" attached to the Secretary's report. (See pages 73 and 74.)

The appropriations for the fiscal year beginning November 12, 1885, are as follows :

From Interest Fund.

For salaries.....	\$ 28,750.00
For farm department—	
For general farm expenses.....	\$ 600.00
For experiments and class-room apparatus.....	800.00
For permanent improvements	500.00
For foreman.....	500.00
	————— \$ 2,400.00
For horticultural department—	
For current expenses and apparatus.....	1,250.00
For mechanical department—	
For current expenses and apparatus.....	\$ 1,100.00
For salary of foreman, Fremont Turner.....	1,000.00
	————— \$ 2,200.00
For veterinary department—	
For current expenses, apparatus, wind mill and office furniture.....	450.00
For salary of house surgeon	200.00
	————— \$ 650.00
For department of chemistry—	
For current expenses and apparatus ..	400.00
For salary of assistant.....	300.00
	————— \$ 700.00
For department of civil engineering.....	200.00
For department of botany.....	400.00
For department of zoology and entomology.....	300.00
For department of physics.....	350.00
For department of military tactics.....	200.00
For department of domestic economy.....	225.00
For library.....	800.00
For public grounds.....	600.00
For public rooms—heating, lighting and cleaning.....	1,500.00
For north hall—heating and cleaning recitation rooms.....	150.00
For Sabbath services in College chapel.....	500.00
For department bulletins.....	350.00

For contingent expenses—

For catalogues for years 1885 and 1886.....	\$ 600.00
For stationery and printing.....	500.00
For advertising.....	200.00
For telephone service	90.00
For clerk hire.....	180.00
For ringing bell for recitations.....	75.00
For bus to Ames during the year.....	225.00
For proctor and chapel roll	325.00
For furnishing guests rooms.....	140.00
For music for public services.....	125.00
For assistant to preceptress.....	100.00
For advertising in <i>Aurora</i> and <i>Farm Journal</i>	100.00
For pumping organ.....	15.00
For tuning organ.....	15.00
For commode for office building.....	100.00
For sundries.....	75.00
	----- \$ 2,865.00
Total.....	\$ 44,390.00

In addition to the above there was appropriated to the departments the proceeds of the ordinary sales. The loan of \$1,500 to the farm department, made in 1885, was continued for another year.

It was ordered by the Board that the appropriations for 1886, be expended, as heretofore, under the direction of the President of the College and that he retain in the treasury one-tenth of all such appropriations until he shall definitely assure himself that the same can be expended without danger of financial embarrassment to the institution.

OFFICERS.

The tenth biennial report of the Trustees gives the names and salaries of the officers and teachers of the College for the year 1884, so far as they had at that time been determined. In January of that year the old Board—of which Messrs. Wright, Kirkwood, Grattan, Stryker and Willard were members—made the following additions to the faculty and salary list :

Mrs. Emma P. Ewing was elected instructor in theoretical and practical domestic economy to serve from March 1st to November 1st, except during July and August, for a compensation of \$500.

Capt. James R. Lincoln was elected professor of military tactics at a salary of \$300 per annum, his term of service to commence March 1, 1884. Trustees Grattan, Stryker, Willard and Wright voting aye ; Governor Kirkwood excused from voting.

The salary of the vice-president was fixed at \$200 per annum, to begin December 1, 1883.

Professor Wynn was allowed \$100 for house rent.

At the meeting of the new Board the following May the resignation of Thomas E. Pope, professor of chemistry, to take effect March 1, 1885, was presented and accepted. The action of the President of the College in engaging W. F. Cole in the place of Professor Thomson, during the latter's absence in Louisiana, was approved; Miss Etta Budd was permitted to give students lessons in painting, provided the same should be without expense to the College; and Mr. Herman Knapp was allowed \$150 as compensation for his services as assistant teacher of agriculture during the spring and fall terms.

At the June meeting the leave of absence of Professor Thomson was extended; Professor Hinrichs, of Iowa City, was employed to deliver at the College a course of lectures on meteorology at a cost not to exceed \$250; and Miss Athearn, the teacher of music, was allowed the sum of \$100 as compensation for drilling the College choir and providing music for chapel services and all public entertainments during the year.

No other changes in officers or salaries occurred during the school year of 1884.

The following is the action of the Board relating to the school year of 1885:

At the meeting in December, 1884, the committee on faculty and courses of study reported that it found a standing order of the Board of Trustees adopted in November, 1883, under which the terms of office of the president and vice-president, secretary, treasurer and steward expired on the first day of December of each year, and that therefore vacancies existed in these positions. Upon the recommendation of the committee the order, as far as it related to the terms of office of the president and vice-president was repealed. Professor J. L. Budd was appointed president *pro tem*, to serve until the election of a permanent president. Trustees Clarkson and Dysart were appointed a committee to correspond with, and report to the Board the names of competent persons for such presidency. At the meeting of the Board held January 14, 1885, this committee reported that after an extended correspondence with numerous parties, and a careful consideration of the same, they had agreed to recommend to the Board, Professor Leigh Hunt, of Des Moines.

Professor Hunt was elected president of the College by acclamation, his term of service to begin immediately, and his salary—fixed at \$3,000 per annum—to commence February 1, 1885. A house had been previously set aside for occupancy by the president; not accepting which, President Hunt was afterward allowed \$200 for house rent.

At the December meeting the salary of Dr. S. A. Knapp, as professor of agriculture and superintendent of the farm, was [fixed at \$1,800 per annum. Professor Knapp, through a communication to Trustee Dysart, expressed to the Board his thanks for considerate treatment, and pledged his full support to the arrangements made. The Board thereupon adopted the following resolution :

“Resolved, That this Board express their appreciation of the kindly spirit of Professor Knapp’s [communication ; direct [that [it be [spread [upon the minutes, and that a vote of [thanks be extended to the Professor for his valuable services in the presidency during the past year.”

Dr. A. S. Welch was elected professor of psychology and sociology and lecturer, at a salary of \$1,800 per annum to commence December 1, 1884. A communication was addressed to the Board by Dr. Welch, thanking them most sincerely for giving him unasked, that part of his old work which he enjoyed most, and promising his sympathy and most hearty co-operation in all efforts to harmonize the College. A resolution was adopted expressing the great pleasure of the Board at the receipt of his communication, and ordering the same spread upon the minutes.

Dr. Newman, of Cedar Falls, representing a committee of the Grand Army of the Republic, presented to the Board the resolutions of the State encampment and the petitions of sixty posts of the department asking the reinstatement of Gen. J. L. Geddes as professor of military tactics and treasurer of the College. The papers thus presented were referred to a special committee. The following report, submitted by the committee, was adopted by the Board:

AMES, IOWA, Dec. 4, 1884.

To the Board of Trustees :

Your committee to whom the resolution of the State encampment of the G. A. R., the petitions from many posts of the G. A. R. and other papers were referred, respectfully reports :

First. The resolution of the State encampment of the G. A. R. is based upon a partial misapprehension of the facts in the case. The records of the College show that after Gen. Geddes’ removal Col. John Scott was elected to

the position of military instructor, and held the position for one year. A knowledge of this fact, will we think make a difference in the feeling of the members of the Grand Army of the Republic.

Second. In the opinion of your committee, the present Board can hardly pass upon the action of a former Board. The vote in the old Board was unanimous in favor of the removal of Gen. Geddes. The responsibility of giving reasons for their action rests with the individual members of the old Board and not upon the present Board.

Third. Your committee has the highest regard for Gen. Geddes, and a full appreciation of his military services, and of his services to the College. It regrets that the General feels that he was wronged by the action of the former Board of Trustees of the Iowa Agricultural College. But your committee calls your attention to the fact that it will be impossible to reinstate Gen. Geddes as military instructor without committing the same wrong of which his friends, the members of the Grand Army, have made complaint to this Board, namely, the removal of a competent man against whom no charges are made.

Fourth. The only fault found with Capt. Lincoln is that he was a confederate soldier. Your committee find that he came to the State of Iowa in 1868, that he has entirely separated himself from his family and friends in the south, is married to the daughter of a union soldier, and is, in the opinion of your committee, a thoroughly loyal man. When these facts are fully known we do not think the members of the Grand Army will feel he should be removed from the place he holds under the Board.

Fifth. If the present Board found a vacancy in the position to fill, or if it could take action without removing a competent official, even to recognize so good a soldier and competent official as Gen. Geddes, it would without doubt prefer to elect to the place some union soldier. All of which is respectfully submitted.

D. W. MOTT, }
W. T. RIGBY, } *Committee.*
R. P. SPEER, }

The term of office of the College treasurer having expired December 1st, Gen. Geddes was elected to that position. The duties of College recorder and manager of the book-department were added to those of treasurer and the entire salary therefor fixed at \$1,000 per annum, \$100 of which was ordered paid from the proceeds of the book department.

The resignations of C. E. Bessey, professor of botany, zoology and entomology, and A. Thomson, professor of mechanical engineering, were presented and accepted. The following resolution was adopted:

Resolved, That in accepting the resignation of Professors Bessey, Thomson and Pope, this Board desire to express their high appreciation of the marked success with which they have conducted their departments, the

valuable services rendered by them to the institution and the great loss sustained by the College in their resignation."

Professor Byron D. Halsted was elected professor of botany at a salary of \$1,600 per annum, his term of service to commence March 1, 1885. A house was set aside for his occupancy. Chairman Mott was authorized to conduct the correspondence necessary to secure a competent person as professor of mechanical engineering. At a later meeting of the Board he reported, heartily recommending for the position Mr. Norman C. Bassett. Mr. Bassett was thereupon elected to the chair of mechanical engineering; his salary was fixed at \$1,600 per annum, and in addition thereto he was allowed \$200 in lieu of house rent. Dr. Launcelot W. Andrews was elected to the chair of chemistry, with salary the same as that allowed the professor of mechanical engineering.

George Osborn was elected house surgeon in the veterinary department for one year from March 1, 1885, at a salary of \$200 per annum.

Herman Knapp was elected assistant professor of agriculture. His salary was fixed at \$650 per annum, and in consideration of his assisting in the College correspondence during the winter, it was ordered that his salary should commence December 1, 1884.

The resignation of Dr. T. W. Shearer, as assistant in chemistry, was presented and accepted, and the action of the executive committee of the Faculty in employing A. L. Hitchcock as assistant in that department for the school year of 1885 at an annual salary of \$300 was approved.

Miss Lydia Schreckengast was appointed assistant librarian at the usual compensation.

The salary of Fremont Turner as foreman and teacher in the workshop was fixed at \$1,000 per annum.

The salary of Dr. D. S. Fairchild was increased from \$800 to \$1,000 per annum. The Board decided that owing to the stringency of the times it was unwise to grant any of the other applications for increase of salaries.

The following resolution was adopted:

Resolved, That it is the sense and it is hereby declared to be the policy of this Board that the President, all members of the Faculty, and assistant professors of the College shall hold their positions during satisfactory service.

At the meeting of the Board in June, 1885, the resignation of Miss Martha Sinclair as preceptress and instructor in French and German, to take effect at the close of the spring term, was presented and accepted. The Secretary was instructed to convey to her the thanks of the Board of Trustees for the very efficient service rendered by her to the Institution, and the Board of Audit was directed to allow her full salary for one-half of the school year. President Hunt was authorized to temporarily fill the position thus made vacant and also to employ the additional teacher made necessary by the introduction of the new ladies' course of study. He was further instructed to present to the Board at their November meeting the names of candidates for election to these places.

At this same meeting, the Board, upon the recommendation of President Hunt, granted a leave of absence to Professor S. A. Knapp for the year 1886, and appointed his assistant, Herman Knapp, to supply his place with the stipulation that during the summer Professor Knapp should deliver to the students in his department a course of lectures to be hereafter arranged, and that the entire compensation to the department should not exceed \$1,800 for the year.

At the November meeting of the Board President Hunt reported that he had temporarily selected Miss C. H. Stockmann, formerly assistant to the professor of German and French in Wellesley College, as instructor in these languages, and Miss Laura M. Saunderson, a graduate of Smith College, and also of the Monroe School of Elocution, as preceptress and teacher of elocution.

Upon his recommendation, Miss. Stockmann was elected professor of German and French, and Miss Saunderson was chosen preceptress and teacher of elocution. It was also provided that other work might be hereafter assigned Miss Saunderson. The salary of each was fixed at \$1,000 per annum.

Dr. Andrews having resigned the professorship of chemistry at the close of the spring term, President Hunt temporarily appointed to that position Professor A. A. Bennett, a graduate of Ann Arbor University, and at the time of his selection, professor of chemistry in the Chicago University. At the November meeting the action of the President in receiving the resignation of Professor Andrews, relieving him from his duties and supplying his place, was approved by the Board. Upon the recommendation of the President, Professor Bennett was elected to the chair of chemistry at the same salary as had been hitherto allowed.

Professor W. H. Wynn presented his resignation of the chair of English literature, ethics and Latin, to take effect at the close of the College year of 1886. The resignation was accepted to take effect at the end of the fiscal year of 1886-7.

The resignations of Miss Mary W. McDonald as librarian and assistant in mathematics, and Miss Ermina Athearn as teacher of instrumental music, were presented and accepted. Miss McDonald was allowed \$100 for services as preceptress during the year. The matter of employing a person for librarian, and determining the duties of such person, and the matter of selecting a teacher of instrumental music were referred to the President. He was directed to secure in the new librarian, if possible, a proficient teacher in free hand drawing. He was also authorized to employ a house surgeon for the veterinary department, and an assistant for the department of chemistry, after consultation with the professors in charge of these departments. The compensation of these assistants, together with that of the foreman of the workshop, all of which remain the same as during the past year, were ordered changed from the salary list and charged hereafter to the expense accounts of their respective departments.

Mr. Herbert Osborn was elected professor of zoology, entomology and geology and J. C. Hainer, professor of physics. Prof. Hainer was allowed \$200 in lieu of a house.

The following is the salary list for the school year of 1886, as fixed by the Board of Trustees, and for the payment of which an appropriation was made from the interest fund:

LEIGH HUNT, A. M., PRESIDENT,

Salary \$3,000; allowed \$200 additional in lieu of a house.

A. S. WELCH, LL.D.,

Professor of Psychology and History of Civilization.

Salary \$1,800.

S. A. KNAPP, LL.D.,

Professor of Agriculture and Farm Superintendent.

Granted leave of absence for 1886; Herman Knapp in charge of the Department; Prof. Knapp to deliver a course of lectures during the year; entire compensation to the Department, \$1,800; allowed the use of a house.

- W. H. WYNN, A. M. PH. D.,
Professor of English Literature, Ethics and Latin.
Salary \$1,600; allowed the use of a house.
- M. STALKER, B. SC., V. S.,
Professor of Veterinary Science.
Salary \$1,600.
- J. L. BUDD, M. H.,
Professor of Horticulture.
Salary \$1,800; allowed the use of a house.
- E. W. STANTON, B. SC.,
Professor of Mathematics and Political Economy, and
Secretary Board of Trustees.
Salary \$2,000, allowed the use of a house.
- D. S. FAIRCHILD, M. D.,
Professor of Pathology, Histology, Therapeutics and
Comparative Anatomy.
Salary \$1,000.
- C. F. MOUNT, C. E.,
Professor of Civil Engineering.
Salary \$1,400.
- JAMES RUSH LINCOLN,
Professor of Military Science and Tactics.
Salary \$300.
- BYRON D. HALSTED, SC., D.,
Professor of Botany.
Salary \$1,600; allowed the use of a house.
- NORMAN C. BASSETT, B. SC.,
Professor of Mechanical Engineering.
Salary \$1,600; allowed \$200 additional in lieu of a
house.
- ALFRED A. BENNETT, B. SC.,
Professor of Chemistry.
Salary \$1,600; allowed \$200 additional in lieu of a
house.
- MRS. EMMA P. EWING,
Instructor of Domestic Economy.
Salary \$500; allowed the use of a house in connection
with the School of Domestic Economy. Term of
service from March to October inclusive, except
July and August.

LAURA M. SAUNDERSON, A. M.,
Preceptress, and Teacher of Elocution.
Salary \$1,000.

CHARLOTTA H. STOCKMANN, A. M.,
Professor of German and French.
Salary \$1,000.

HERBERT OSBORN, M. SC.,
Assistant Professor of Zoology and Entomology.
Salary \$1,200; allowed the use of a house.

J. C. HAINER, B. SC.,
Assistant Professor of Physics.
Salary \$1,200; allowed \$200 additional in lieu of a house.

Librarian, with other duties to be hereafter assigned.
Salary \$600.

J. L. GEDDES,
Treasurer and Recorder.
Salary \$1,150.

A rule was established by the Board which provides that no professor or employe shall be absent during terms of the College without permission of the proper authorities.

The President was instructed to employ the services of any professor whose time may be found after full consultation to be not fully occupied, provided that the additional work shall be such as the professor assigned is qualified to perform or that shall be germane to the duties to which he has been elected by the Board.

MATTERS RELATING TO COLLEGE DEPARTMENTS.

Professor Budd having requested the Board of Trustees to arrange if possible, so that the fruit trees and scions ordered from Europe could be paid for in advance, the Board of Audit was given full power to pass upon such bills, in justice to Professor Budd and for the best interests of the College.

Permission was granted Professor Budd to expend \$50 of the appropriation of 1885 in the purchase of books for his department.

Professors Knapp and Budd were appointed by the Board to represent the College in the convention of Agricultural Colleges and Experiment Stations held in Washington, D. C., July 8, 1885. Pro-

fessor Budd did not attend, but afterward met Commissioner Colman in Chicago on business connected with the experimental work in horticulture. He afterward visited various experiment stations. Professor Knapp's expenses and \$50 toward the expenses of Professor Budd were ordered paid from the State experimental fund.

The printing of department bulletins was referred to the executive committee of the Faculty and the professors issuing bulletins.

The heads of the various departments were directed to submit their reports to the President in time for him to prepare his annual report to the Board. It was provided that this order should not be construed as preventing any professor who desired to confer with the Board, from appearing before it.

The veterinary department was directed to perform promptly and without compensation the professional service that may be needed by any of the animals that are the property of the College or its Farm.

The President was instructed to adjust the question of the transfer of the electric light and plumbing to the mechanical department and arrange all other matters in which the steward's department and the mechanical department are jointly interested.

SCHOOL-BOOK DEPARTMENT.

This is not considered one of the regular College departments, as it has no connection with the College funds. It is, however, managed by the Board of Trustees. It is run for the benefit of the students, and the income from the sale of books and stationery meets all of its expenses.

During the school year of 1884 it was under the charge of the deputy treasurer, Herman Knapp. The following summary of his report to the Board of Trustees shows the financial transactions during the year:

RECEIPTS.

Cash on hand at the beginning of the year.....	\$ 534.04
Cash received from sales, express and drayage.....	3,112.19

EXPENDITURES.

Amount paid for books, stationery, express, drayage and clerk hire	\$3,058.48	
Compensation allowed Herman Knapp	100.00	
Cash on hand at the close of the year.....	487.75	
Totals.....	\$3,646.23	\$3,646.23

INVENTORY.

Live stock	\$ 618.47
Dead stock.....	19 00
Total.....	<u>\$ 637.47</u>

Trustee Stryker having been appointed a committee to examine the accounts of the department, reported that he found the same correct.

At the meeting of the Board of Trustees in December, 1884, the College treasurer, Gen. J. L. Geddes, was given charge of the school-book department. He was allowed a compensation of \$100 for the year, payable from the income derived from the department sales. The following is his report at the close of the school year of 1885 :

RECEIPTS.

Cash on hand at the beginning of the year.....	\$ 487.75
Cash received from sales, express and drayage.....	3,446.87

EXPENDITURES.

Amount paid for school-books, stationery, express, drayage, salary and clerk hire.....	\$ 3,630.41
Cash on hand at the close of the year.....	303.71
	<u>\$ 3,934.12</u>
	<u>\$ 3,934.12</u>

INVENTORY.

Live stock on hand.....	\$ 894.92
Dead stock on hand.....	70.35
Total.....	<u>\$ 965.27</u>

SUMMARY.

Total assets of the department at the beginning of the biennial period	\$ 884.01
Total assets at the close of the biennial period.....	1,268.98

Gen. Geddes was continued in charge of the department for the year 1886 at the same compensation as previously allowed.

BOARDING DEPARTMENT.

This department is self sustaining and its accounts are kept separate from those of the College. During 1884 Capt. J. R. Lincoln acted as steward. His salary was fixed at \$1,000 per annum and

board during the session of school. For that year South Hall was set aside for occupancy by his family.

The following extract from his report to the Board shows the work done during the year and the condition of the department at its close:

"At the close of a year's labors, commenced without previous experience in the work entered upon, I feel that I can report a fair amount of success.

I received the steward's department with \$860.45 cash on hand, credited to the following funds: College boarding department, \$353.07; cottage boarding department, \$180.67, and room rent fund, \$326.71. I had the College building kalsomined throughout, and both that and the cottage thoroughly cleaned and the furniture repaired and varnished. After paying all the bills against the several departments, both for labor and supplies, I have now on hand \$2,048.36, credited as follows: College boarding department, \$935.72; cottage boarding department, \$758.26, and room-rent fund, \$354.38."

The accounts of the department were examined by the secretary of the Board and also by the executive and finance committee and found correct.

Capt. Lincoln was elected steward for 1885 at the same salary as for the previous year. His bond of \$5,000 was approved by the executive committee of the Faculty.

The house formerly occupied by Professor Thomson was set aside as a steward's house, and the sum of \$200 was appropriated from the room-rent fund to its repair.

The room-rent fund was transferred by an order of the Board from the steward's department to the College accounts and the balance to the credit of that fund in the hands of Capt. Lincoln, was paid over by him, under this order, to the College treasurer.

Arrangements were made by the Board for the department to run the bus between Ames and the College, making three trips per day during term time and two each day during vacation.

At the close of the school year of 1885, Trustees Grattan and Speer were appointed a committee to examine the books and accounts of the steward. The condition of the department is made known by their report, which is as follows:

"To the Board of Trustees:

Your committee appointed to make settlement with James Rush Lincoln, of the steward's department, beg leave to report that they have examined

his books and vouchers and find his accounts correct and the affairs of his office in good order. The following is a statement of the present debt and credit balances as shows by his books :

DEBIT.

Cash on hand.....	\$ 1,866.90
Fires and lights.....	250.59
Bus account.....	176.74
Personal accounts.....	99.75
	<hr/>
	\$ 2,393.98

CREDIT.

Cottage boarding department.....	\$ 752.10
College boarding department.....	1,607.49
Incidental expense account.....	34.39
	<hr/>
	\$ 2,393.98

Respectfully submitted.

H. G. GRATTAN, }
R. P. SPEER, } *Committee.*

Capt. Lincoln was allowed by the Board to keep a separate account with the bus and to borrow from the boarding account for the bus account the sum of \$300.

Captain Lincoln was continued as steward for 1886, at the same salary as he received in 1885. His bond was fixed at \$5,000, to be approved by the Board of Audit.

COLLEGE TREASURER.

W. M. Greeley, of Ames, was treasurer of the College for the year ending December 1, 1884. His salary was \$300 for the year. Herman Knapp acted as deputy-treasurer, receiving a salary of \$400 per annum.

In December 1884, Gen. J. L. Geddes was chosen treasurer at an annual salary as treasurer and recorder of \$900; he had no deputy. In December 1885 he was re-elected treasurer and his salary as treasurer and recorder was increased to \$1,150 per annum.

The report of the treasurer for the biennial period will be found on pages 82 and 87. Monthly settlements have been made with the treasurer by the secretary of the Board, the results of which are contained in the report of that officer found on page 67.

The following is the report of the executive and finance committee

of the Board upon their examination of the treasurer's accounts, made at the close of the fiscal year of 1884:

To the Honorable Board of Trustees:

Your committee beg leave to report that they have examined the accounts of the treasurer, determined the amount of cash received and paid out, compared the vouchers with the day book, tested the additions of the cash account, and that they find the report of the treasurer, of the cash received and disbursed by him, to be correct.

Respectfully,

PLATT WICKS, *Chairman.*

Ames, December 5, 1884.

At the annual meeting of the Board in November, 1885, Trustees Stryker and Peck were appointed a special committee to examine the accounts of the treasurer for that year. The following is their report:

To the Honorable Board of Trustees:

Your committee to examine the books of the treasurer have completed the examination of his accounts and books by carefully testing all the computations, personally examining all the vouchers and comparing the accounts and totals with the secretary's settlement sheet; and we find the same correct in every particular. We commend the neatness and accuracy of the treasurer's books, and report that he has fully accounted for all balances remaining on hand, and that we fully approve of his work for the past year.

Respectfully submitted,

C. S. STRYKER,

A. D. PECK,

Committee.

Ames, November 13, 1885.

Both of the above reports were adopted by the Board.

COURSES OF STUDY.

In June 1884 the Board established a School of Domestic Economy as recommended by Mrs. Ewing. The subject of a course of study for this school was referred to the Faculty with instructions to report upon the same at the August meeting. The course of study recommended by the Faculty was adopted by the Board. At the close of the spring term of 1885 the Faculty advised that the under-graduate course of two years be abolished and a two years post-graduate course established in its stead. This was done, and the course of study found on page 48 of the College catalogue for 1885 was recommended by the Faculty and adopted by the Board.

At the meeting of the Board in December 1884 it was ordered that military instruction should be continued through the Sophomore year, and that painting should be put upon the same footing in the course of instruction as music. The Board refused, at this meeting, to establish a preparatory school.

At the meeting in May, 1885, the Board adopted the new ladies' course of study, recommended by the Faculty. They also approved the addition of History to the requirements for entrance to the four year College courses. The other changes in the courses of study made by the Faculty during 1885 were approved by the Board at the annual meeting in November. The courses, as thus changed, are set forth in full in the catalogue for 1885.

MATTERS RELATING TO STUDENTS.

During the biennial period, students were graduated in the different College courses as follows :

	1884.	1885.
In the course in sciences related to the industries.....	17	14
In the course in agriculture.....	4	5
In the course in mechanical engineering.....	..	4
In the course in civil engineering.....	9	6
In the course in veterinary science.....	2	6
Total.....	32	35

Upon these graduates the Board conferred the degrees appropriate to the different courses. The post graduate degree of Master of Philosophy (M. Ph.) was conferred upon C. H. McGrew, of the class of 1880, and Miss Anna E. Henry, of the class of 1884.

Upon the recommendation of the President, the Board directed that non-resident students should not be admitted to the College until all Iowa applicants had been accommodated, and that such students should be charged a tuition of \$15 per term.

Captain Lincoln was authorized to make such changes in room rent charges as he should deem for the best interests of the College.

It was ordered that the sum of sixty cents per term should be collected from all students and paid over to the College treasurer. It was provided that the amount thus collected should constitute a College hospital fund, and the same was appropriated by the Board to employ a nurse, provide professional service, furnish medicine, and pay the other expenses of the students' hospital.

A resolution was adopted by the Board approving the treatment and suppression of the troubles in the College during the summer of 1885, by the President, as having been correct, firm, and suitable to the emergencies of the occasion. By a further resolution, the Board declared that it considered the proper government for the College to be executive government

MILEAGE AND PER DIEM.

The following is the mileage and per diem of the members of the present Board of Trustees for the biennial period:

	1884.				1885.			
	Number of meetings.	Mileage.	Per diem.	Total.	Number of meetings.	Mileage.	Per diem.	Total.
S. B. Willard.....	6	\$135.50	\$120.00	\$255.50	3	\$ 65.60	\$ 72.00	\$137.60
W. T. Rigby.....	6	76.60	100.00	176.60	3	45.50	44.00	89.50
R. P. Speer.....	6	69.45	104.00	173.45	3	30.60	56.00	86.60
H. G. Grattan.....	6	143.75	120.00	263.75	3	79.55	56.00	135.55
Joseph Dysart.....	6	60.70	108.00	168.70	3	29.70	48.00	77.70
John Morrison.....	6	74.30	112.00	186.30				
J. S. Clarkson.....	5	16.00	56.00	72.00	3	8.00	32.00	40.00
C. S. Stryker.....	6	116.00	112.00	228.00	3	47.40	60.00	107.40
Platt Wicks.....	6	87.00	112.00	199.00	3	41.70	44.00	85.70
D. W. Mott.....	6	63.70	96.00	159.70	3	36.00	52.00	88.00
A. D. Peck.....	6	67.40	100.00	167.40	3	35.70	44.00	79.70

E. W. STANTON,

Secretary.

APPENDIX.

IMPORTANT LAWS RELATING TO THE IOWA AGRICULTURAL COLLEGE.

LAW IN RELATION TO TRUSTEES.

Chapter 76, Acts Twentieth General Assembly.

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. That section 1604 of the Code be, and the same is, hereby amended by striking out all that portion thereof after the word "board" in the eleventh line thereof and by adding to said section in lieu thereof the following, to wit: "Of trustees consisting of one person from each Congressional District of the State. But the present board of trustees shall continue as members of the board of trustees from their several Congressional Districts until their terms of office expire."

SEC. 2 That section 1605 of the Code be and the same is hereby repealed, and the following enacted as a substitute therefor: "Section 1605. That of the members of said board representing the different congressional districts there shall be elected by this General Assembly one to serve two years, four to serve four years, and three to serve six years, from the first day of May, A. D. 1884, and as the term of office of the members of the board expire, the General Assembly shall elect their successors whose term of office shall be six years. The board of trustees shall fill all vacancies occurring therein except when the Legislature is in session, and the persons so appointed shall hold their offices until the next session of the General Assembly after such appointment, but neither the President nor any other officer or employe of the college and farm, nor any member of the General Assembly shall be a trustee."

Approved March 28, 1884.

LAW PROVIDING FOR THE INVESTMENT OF THE ENDOWMENT FUND.

Chapter 193, Acts Twentieth General Assembly.

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. That the Board of Trustees of the Iowa State Agricultural College and Farm, be, and they are hereby charged and intrusted with the

management and investments of the Endowment Fund of said College, derived from the sale of the lands granted to the State of Iowa by an act of Congress, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of Agriculture and Mechanic Arts," approved July 2d, 1862. Such investments may be in the stocks of the United States, or of the States, or some other safe stocks yielding not less than five per centum of the par value of said stocks, as provided by act of Congress granting such lands.

Before the purchase of any such stocks shall be made the proposed investment shall be submitted to and approved by the State Executive Council.

SEC. 2. Said Board of Trustees are also authorized to loan said funds upon approved real estate security in accordance with the following rules and regulations:

First. Each loan shall be for a term not exceeding ten years, at a rate of interest to be fixed by said Board not exceeding ten per centum, and not less than six per cent per annum, payable annually.

Second. Each loan shall be secured by a mortgage paramount to all other liens upon improved farm lands in the State of Iowa, and shall not exceed forty per cent of the cash value of the mortgaged premises, exclusive of buildings.

Third. Principal and interest shall be payable to the order of said Board at the office of the State Treasurer at Des Moines, Iowa, and the notes and mortgages shall provide for the payment by the borrower, of all expenses, attorneys' fees and costs, which shall be incurred in collecting the principal and interest of such loans, or any part thereof, by reason of the default of such borrower.

Fourth. A register containing a complete abstract of such loan, and showing its actual conditions shall be kept by the secretary of said Board, and shall be at all times open to inspection. The Attorney General, under the direction of the Executive Council, shall prepare all blanks, forms and instructions necessary to carry into effect the provisions of this section, and to keep the fund loaned as herein provided, secure and unimpaired.

SEC. 3. That for the purpose of carrying into effect the provisions of this act, the said trustees are authorized to appoint a financial agent to receive applications and negotiate loans in accordance with the conditions herein contained. The trustees shall require any agent appointed, under this act, before entering upon the discharge of his duties, to give bond with approved sureties in a penal sum to be determined by said board of trustees, which shall be at least double the amount of funds liable to come into his hands at any time, and shall be for the use and benefit of said Iowa State Agricultural College and Farm, and actions for breach of the conditions hereof may be brought in the name of said Board of Trustees. The appointment of such agent, and the bond given by him, shall be subject to approval by the State Executive Council. Such agent shall hold his office during the pleasure of the Board of Trustees.

SEC. 4. The Secretary of the Board of Trustees shall semi-annually report to the Executive Council, and to the Board of Trustees at every meet-

ing, all loans made under this act, giving a description of the security taken and the value thereof, the name of the borrower, length of time, and amount of loan and rate of interest.

SEC. 5. Foreclosure of mortgages under this act may be made in the name of the Board of Trustees of the Iowa State Agricultural College and Farm, and in case of sale on execution under such foreclosure the mortgaged premises may be bid off in the name of the State of Iowa, and if deed therefor be made, said premises shall be held by the State in trust for the benefit of said Agricultural College. Such land shall be subject to lease or sale the same as other land belonging to the College.

SEC. 6. The agent provided for by section three of this act shall receive compensation to be fixed by said Board of Trustees at a rate not exceeding the sum of two thousand dollars per annum, and all necessary expenses while necessarily away from his office, in the discharge of his official duties, to be paid as other officers, out of the treasury of the State.

SEC. 7. Moneys collected from delinquents shall be paid at once into the State Treasury. The principal of the fund shall be kept by the Treasurer of State, and shall be drawn out for the purpose of investment as hereinbefore provided upon the order of the Board of Trustees subject to such restrictions as may be imposed by the Attorney-General and the State Executive Council.

The Treasurer of State shall make monthly reports to the Secretary of the Board of Trustees, showing all payments of principals and interest and shall remit to the Treasurer of the College all interest in his hands, as shown by such reports.

SEC. 8. All acts and parts of acts conflicting with the provision of this act are hereby repealed.

Approved April 14, 1884.

LAW IN RELATION TO THE MANAGEMENT OF THE LAND DEPARTMENT.

Chapter 72, Acts of the Twentieth General Assembly.

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. That the Trustees of the Iowa State Agricultural College and Farm be, and they are hereby authorized to sell the lands granted to the State of Iowa by an act of Congress entitled "An Act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and mechanic arts," approved July 2d, 1862. Such sale shall be for cash, or upon a partial credit not exceeding ten years, at such appraised value as shall be fixed by said trustees. All deferred payments shall draw interest at the rate of eight per cent per annum, payable annually in advance. Upon a failure to pay the annual interest or principal within sixty days after it becomes due and within sixty days after notice thereof in writing by mail or otherwise from the trustees or land agent of

said college to the holder of the lease shall have been given, the purchaser shall forfeit all claim to said land and the improvements made thereon and all sums paid on said contract unless in the opinion of the trustees an extension should be allowed.

SEC. 2. Said trustees are also authorized to lease the said lands for a term not exceeding ten years at an annual rent equal to eight per cent per annum upon the appraised value of the tract, payable annually in advance, and the said lessee, his heirs or assigns, shall have the privilege of purchasing said tract of land at the expiration of the lease at the appraised value stated in the lease. The lessee failing to pay the annual interest upon said lease within sixty days after the same becomes due and within sixty days after notice thereof in writing, by mail or otherwise, from the trustees or land agent of said college to the holders of the lease shall have been given, shall forfeit his lease, together with the interest paid thereon, and improvements made thereon.

SEC. 3. The said trustees are authorized at their option to cause to be received the purchase price of the land so sold or leased, or which has been heretofore sold or leased before the same comes due, upon such terms and conditions of payment as said trustees may deem for the best interest of the institution.

Said trustees may also renew leases as they expire, and when so renewed the lease-hold estate shall be subject to taxation as provided in chapter one hundred and sixty-nine of the acts of the Nineteenth General Assembly, entitled "An act to provide for taxation of lease-hold estates in Agricultural College lands," approved March 25, 1892.

SEC. 4. Leases heretofore issued by said trustees under the authority of former acts of the General Assembly of this state, and all renewals of such leases shall be deemed assignable, and all transfers of such leases or renewals heretofore made shall be valid, and the owner, whether holding one or more than one such lease or renewal, who has made the annual payments therein required, shall be entitled to all the benefits of such contract or contracts, and shall have the privilege of purchasing the tract or tracts of land so held by him as provided in the lease, and upon the payment of the purchase money shall be entitled to a patent for the land described in said lease or leases.

SEC. 5. The said trustees be and they are hereby authorized in like manner to sell or lease the lands belonging to the said Iowa Agricultural College acquired by purchase with accumulated interest fund.

SEC. 6. Whenever a sale shall be made of any of said lands as hereinbefore provided, the President of the said Agricultural College shall issue to the purchaser a certificate, countersigned by the Secretary of said Board, stating the fact of purchase, the name of the purchaser, description of land and the appraised value thereof. Upon payment of such purchase price to the Treasurer of State, the purchaser or his assigns shall be entitled to a patent or patents for such tract or tracts of land. And upon presentation of such certificate to the Secretary of State with the receipt of the Treasurer of State showing full payment of the purchase money and stating the

amount thereof, said Secretary of State shall issue to the purchaser or to his assigns, a patent or patents for the tract or tracts of land therein described, which patents shall be signed by the Governor and Secretary of State, as other patents or deeds for land conveyed by the State, and shall vest in the purchaser all the right, title and interest of the State and of said College in and to the lands therein described.

SEC. 7. The principal of all moneys collected under the provisions of this act, shall be paid to and held by the Treasurer of State, and shall be drawn out for the purpose of investment on the order of the Board of Trustees, only when required to complete a loan. The interest collected shall be paid to the treasurer of the College upon the order of the Board of Trustees.

SEC. 8. Chapter seventy-one of the acts of the Fifteenth General Assembly entitled "An act to regulate the leasing of the land belonging to the Iowa State Agricultural College" approved March 19, 1874, and all acts and parts of acts conflicting with the provisions of this act are hereby repealed.

Approved March 27, 1884.

LAW TAXING RENEWED LEASES OF COLLEGE LANDS.

Chapter 169, Acts of the Nineteenth General Assembly.

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. That in all cases where leases of lands executed by the trustees of the Agricultural College have been or shall hereafter be renewed ten years after the date of the original lease has expired, the interest in such lands of the lessee, his heirs, or assigns, shall be subject to assessment and taxation as real property. The value of such interest shall be ascertained by deducting from the value of such lands and the improvements thereon the amount required to be paid by the terms of the lease to acquire the title thereto. Such leasehold interest shall be assessed, taxed, and sold for delinquent taxes, and redemption from such sale be made or tax-deed be issued, in all respects like other real estate, save as herein otherwise provided, with the same rights, liabilities, and effect, and the treasurer's tax-deed shall operate as a full and complete assignment of said leasehold interest to the grantee named in such deed.

SEC. 2. At any time after such leasehold interest shall have been sold for delinquent taxes the holder of the certificate of purchase may pay any interest or principal due by the terms of the lease, or do any other act necessary to prevent a forfeiture of such lease by the terms thereof, and the proper voucher for such payment shall be filed with the auditor of the county where the land is situated. No redemption from a sale of such land shall be allowed until the amount paid by the holder of the certificate of sale by virtue of this act, together with interest thereon at eight per cent per annum from the dates of payment, shall be paid to the auditor, with all other amounts required by law to complete such redemption, to be by him paid to

the holder of such certificate, and the certificate of redemption shall show the amounts paid by the party redeeming on account of such lease.

SEC. 3. Where any leasehold interest has been sold for delinquent taxes and a treasurer's deed issued thereon, the grantee in such deed named, his heirs, or assigns, shall be entitled to purchase the land conveyed by such deed at the price and on the terms specified in the lease therefor then in force, and to receive a patent therefor. In case such lease shall expire before the holder of the certificate of sale shall be entitled to a treasurer's deed, such holder may pay the amount required by the terms of such lease to acquire the title in fee to said land, and receive a conveyance of the same, and after such conveyance is made no redemption from the tax-sale of the land thereby conveyed shall be allowed.

SEC. 4. The right of the tax-sale purchaser or his assigns to pay any amount due by virtue of any lease shall be evidenced by a copy of the certificate of sale, or treasurer's deed, as the case may be, duly certified by the officer, or officers, executing the same, and in case no tax-deed has been issued the auditor of the proper county shall further certify that redemption from the tax-sale has not been made, such copy and certificate shall be filed with the Secretary of the Board of Trustees and become a part of the records of his office.

SEC. 5. The Board of Trustees shall cause to be certified to the auditor of each county in which leased college lands are situated on or before the first day of April, A. D. 1882, and on or before the fifth day of January of each year thereafter, a list of such lands held under renewed leases, together with the name of each lessee thereof, the date and terms of each lease, the amount to be paid thereunder, and the dates when such amounts will become due. Each auditor of a county in which such lands are situated shall deliver to the assessor of each township which contains any of said lands, on or before the first day of April, A. D. 1882, and on or before the fifteenth day of January for each year thereafter, a list of such land situated in such township, together with a statement showing the lessee of each tract and the amounts to be paid by virtue of the lease thereon, and the dates of payment.

SEC. 6. Nothing in this act shall be so construed as to authorize the taxation of any leasehold interest under and by virtue of this act for any year prior to 1882.

SEC. 7. All acts and parts of acts, so far as they conflict with this act, are hereby repealed.

CALENDAR FOR 1886.

Term opens	-	-	-	-	-	Wednesday, February 26.
Entrance Examinations	-	-	-	-		{ Wednesday, February 26. Thursday, February 27.
Recitations begin	-	-	-	-	-	Friday, February 28.
Term Examinations	-	-	-	-	-	June 19 to 25.
Junior Exhibition	-	-	-	-	-	Wednesday, June 25.
Summer Recess begins	-	-	-	-	-	June 26.
Second Term begins	-	-	-	-	-	Tuesday, July 22.
Recitations begin	-	-	-	-	-	Wednesday, July 23.
Term Examinations	-	-	-	-	-	November 5 to 12.
Address before Trustees	-	-	-	-	-	Tuesday evening, Nov. 11.
Commencement Exercises	-	-	-	-	-	Wednesday, November 12.
Winter Vacation from November 13, 1886, to February 26, 1887.						

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